



Environment

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Post-RAC Report

Granville Solvents Site
Granville, Licking County, Ohio

USEPA ID: OHD004495412

September 14, 2012

Contents

1.0 Introduction.....	1
2.0 May 2012 Semi-Annual Sampling Event.....	2
2.1 Maintenance and Repairs.....	2
2.2 Sampling Methods	3
2.3 Results	3
2.3.1 Potentiometric Surface	3
2.3.2 Groundwater Sampling.....	3
3.0 Vertical Profile Groundwater Sampling	4
3.1 Methods.....	4
3.2 Results.....	5
4.0 Pump Response Test.....	5
4.1 Methods.....	5
4.2 Results.....	6
5.0 South Area Sampling.....	6
5.1 Methods.....	6
5.2 Results.....	6
6.0 Attenuation Sampling/Testing	7
6.1 Methods.....	7
6.2 Results.....	7
7.0 Testing For 1,4-Dioxane	8
7.1 Methods.....	8
7.2 Results.....	8
8.0 Conclusions.....	8

List of Figures

- Figure 1: Site Map
- Figure 2: Sample Location Map
- Figure 3: Potentiometric Surface Map – May 2012
- Figure 4: PCE Iso-Concentration Map – May 2012
- Figure 5: TCE Iso-Concentration Map – May 2012
- Figure 6: TCA Iso-Concentration Map – May 2012
- Figure 7: Geologic Cross Section A-A'
- Figure 8: Geologic Cross Section B-B'

List of Tables

- Table 1 Water Level Measurements
- Table 2 Monitoring Well Purge Data
- Table 3 Summary of Groundwater Analytical Results
- Table 4 Summary of Vertical Profiling Results
- Table 5 Summary of South Area Sampling Results
- Table 6 Summary of Geotechnical Results
- Table 7 Summary of Attenuation Results

List of Appendices

- Appendix A Post RAC Work Plan (February 29, 2012)
- Appendix B Procedure Change Notification (May 8, 2012)
- Appendix C Concentration Trend Graphs
- Appendix D Groundwater Analytical Report - Semi-Annual
- Appendix E Groundwater Analytical Report - Vertical and Grab
- Appendix F Pump Test Response Results
- Appendix G Boring Log NA-1
- Appendix H Soil Analytical/Geotechnical Report
- Appendix I Groundwater Analytical Report - Attenuation

1.0 Introduction

This document contains the results of the implementation of the Post-RAC Work Plan dated February 29, 2012 for the Granville Solvents Site (Village of Granville, Licking County, Ohio)(Figure 1). The Post-RAC Work Plan was approved by the United States Environmental Protection Agency (USEPA) on April 12, 2012 and developed in response to the Review Comments dated April 6, 2011 and a meeting with Region 5 on June 29, 2011 regarding the 2010 Draft Removal Action Completion (RAC) Report dated July 30, 2010. The RAC Report was submitted to the EPA in order to apply for a Notice of Completion (NOC) regarding removal actions conducted at the site between 1995 and 2005 as required by the Administrative Order on Consent (AOC) issued by the EPA on September 7, 1994.

The EPA requested performance of the following tasks as outlined in Section 6 of the RAC Report:

1. Perform vertical aquifer sampling from the top to the bottom of the aquifer at a location halfway between the MW-07 and MW-08 clusters.
2. Collect groundwater levels on a 20-minute frequency in several monitoring wells to determine if trends in water levels can be attributed to the start or termination of pumping from the municipal wells, and which pumping wells it can be related to.
3. Collect a (groundwater) sample from GSSEW-1.
4. Continue annual (groundwater) monitoring for a minimum of two years (semi-annually through 2012), and until it is determined that monitoring is no longer necessary.

Tasks (3) and (4) were conducted during the semi-annual groundwater sampling events as summarized in Section 2.0 of this report. The overall objective of the work plan was to define the proposed scope of work to address Tasks (1) and (2) and to also propose a scope of work to address other concerns at the Site. The other concerns consist of the discrepancy between groundwater flow direction and volatile organic compound (VOC) plume migration direction, potential presence of 1,4-dioxane and occurrence of natural attenuation processes.

The activities conducted during implementation of this work plan include the following:

- May 2012 Semi-Annual Groundwater Sampling ;
- Vertical Groundwater Profiling;
- Pump Response Testing;
- South Area Sampling;
- Attenuation Sampling; and
- Testing for 1,4-dioxane.

Deviations from methods outlined in the Post-RAC Work Plan (Appendix A) are provided in each section of this report. The project site and sample locations associated with implementation of the work plan are provided on Figure 2.

2.0 May 2012 Semi-Annual Sampling Event

The USEPA requested continuation of the semi-annual groundwater sampling events through calendar year 2012 as noted in Section 1.0 of the work plan. This section of the report contains results of the May 2012 semi-annual sampling event. Collected samples have been analyzed for VOCs following the procedures outlined in the *Groundwater Monitoring Program Plan for the Granville Solvents Site in Granville, Ohio* (M&E 1995) (Groundwater Monitoring Plan) except as noted below.

2.1 Maintenance and Repairs

During the November 2011 semi-annual groundwater sampling event, the site inspection indicated the need for several monitoring well repairs and maintenance of vegetation inside the fence. On May 22, 2012, the PVC well riser for GSSMW-09 was extended (0.6ft) via a rubber coupler. Prior to this, the well casing for GSSMW-09 was deep within the well box and had become partially buried by surface water and sediment from drainage. Following the repair, GSSMW-09 was redeveloped on the same day. Redevelopment consisted of surging and then purging from the well casing until the water was clear or about 40 gallons of water. Trimming of vegetation inside the fenced area was conducted on May 3, 2012 and on June 6, 2012.

Grundfos™ dedicated sampling pumps and tubing in each of the ten wells sampled for the semi-annual event had been observed in 2011 to be in poor condition and several were not functional. The seals on most of the wellhead manifolds were in poor condition, potentially causing any surface water entering the flush-mount boxes to enter the well casing. For this reason, the dedicated pump and tubing systems were removed prior to the May 2012 semi-annual monitoring in order to conduct low-flow sampling using a non-dedicated submersible bladder pump as outlined in the Procedure Change Notification letter submitted to USEPA on May 8, 2012 (Appendix B).

On May 22, 2012, AECOM removed the dedicated sampling pumps and tubing at each of the ten semi-annual monitoring wells and replaced the top of the casing with a standard water-tight cap. The pumps and tubing were labeled and are currently stored in the on-site remediation enclosure. The semi-annual monitoring wells were sampled in 2012 using low-flow techniques via an air operated bladder pump during each well sampling event. The bladder system consists of a 1.75-inch stainless steel QED™ bladder pump operated by a combined pump controller/12-volt air compressor (QED™ MP50). New disposable polyethylene bladders and tubing were used in between each well and the pump was thoroughly decontaminated using a Liquinox™/distilled water wash followed by distilled water rinse. The existing dedicated sampling systems were removed from the following monitoring wells:

- MW-02D
- MW-04D
- MW-06
- MW-07D
- MW-08
- MW-P1
- GSSMW-15
- GSSMW-08; and
- GSSMW-09.

2.2 Sampling Methods

The first semi-annual sampling event in 2012 was conducted from May 30 to June 1, 2012 with monitoring well gauging performed on May 29, 2012. Methods used to conduct the first semi-annual groundwater monitoring event in May 2012 are outlined in the Groundwater Monitoring Plan. The monitoring well network used to monitor groundwater conditions at the Site consisted of the existing wells MW-P1, MW-02D, MW-04D, MW-06, MW-07D, MW-08, GSSMW-08, GSSMW-09 and GSS-MW15. All project site monitoring wells were used to gauge groundwater depth to assist in determining the potentiometric surface. Site activities are summarized below:

May 2012

- Recorded water level measurements of all site monitoring wells;
- Performed the site inspection;
- Sampled select monitoring wells; and
- Re-surveyed the top-of-casing elevation at GSSMW-09.

Inspection and gauging of the monitoring wells, purging, groundwater sampling and management of purge water typically varied from two to three days. Groundwater samples were submitted to TestAmerica Laboratories, Inc. in Savannah, Georgia for analysis of VOCs by USEPA SW-846 Method 524.2 in accordance with the Groundwater Monitoring Plan.

2.3 Results

2.3.1 Potentiometric Surface

Water level measurements are provided on Table 1 of this report and indicate that the average water level decreased approximately 0.23 feet from November 2011 to May 2012. This seasonal decrease in over-all water levels is not consistent with historic measurements since post shut-down monitoring (2005) and as noted in previous annual reports. Typically, the average water level increases from November to May due to the wetter winter and spring seasons. This seasonal decrease is likely due to atypical groundwater usage, since the general area experienced above-average precipitation during this period.

Figure 3 provides a depiction of the potentiometric surface for the May 2012 sampling event. The potentiometric surface is very flat with a slight groundwater flow direction in the vicinity of the Site north and away from Raccoon Creek with a low average horizontal gradient of 0.005 ft/ft. This low-gradient flow reversal away from Raccoon Creek has been observed in the fall season since the 2005 post shut-down monitoring period, but was also observed during the spring of 2008.

2.3.2 Groundwater Sampling

Purging data obtained for each monitoring well sampled is provided in Table 2. A summary of the groundwater analytical results for each monitoring well sampled is provided in Table 3 with historic data and concentration trend graphs for selected monitoring wells provided in Appendix C. Figures 4, 5 and 6 show iso-concentration contour lines for PCE, TCE and TCA, respectively. The full analytical report for groundwater testing with quality assurance/quality control documentation is provided in Appendix D.

2.3.2.1 Source Area Wells

Appendix C contains concentration trend graphs for detected VOCs on a logarithmic scale versus time on a linear scale beginning in 1996 for monitoring wells MW-P1, MW-2D, MW-4D, and MW-6. In general, the May 2012 results for the Source Area Wells are consistent with the November 2012 results with a slight increase in concentrations of VOCs at MW-P1, moderate increases at MW-02D, a slight decrease at MW-04D and relatively unchanged at MW-06. Source Area VOC levels remain stable as evidenced by comparison of the iso-concentration contour lines for PCE from November 2011 and May 2012 (Figure 4).

2.3.2.2 Intermediate Well

GSSMW-15 was installed in September 2005 between the Source Area Wells and the Leading Edge Wells. Between the November 2011 and May 2012 sampling events, PCE concentrations remained stable at 9 ug/L with slight increases in breakdown components TCE and DCE.

2.3.2.3 Leading Edge Wells

VOCs have never been detected at Leading Edge Well MW-07D and were not detected during the May 2012 sampling event. PCE/TCE breakdown components cis and trans DCE have typically been detected at MW-08 and were also detected during the May 2012 sampling event and have decreased since November 2011. The concentrations are well below the MCLs of 70 (cis) and 100 ug/L (trans).

2.3.2.4 Compliance Wells

VOCs were not detected at compliance wells GSSMW-08 and GSSMW-09 during the May 2012 sampling event.

3.0 Vertical Profile Groundwater Sampling

3.1 Methods

In order to obtain information on VOC concentrations with depth between the site and the Granville Well-field, vertical profiling of groundwater quality was conducted between MW-07/MW-08 and GSSMW-15 at the location shown on Figure 2 as VG-1. Vertical profiling was conducted in general accordance with the work plan; however, the target depth of 120 bgs could not be achieved using the direct-push drilling equipment. Several attempts were made to attain the groundwater sampling target depth as follows:

- Attempt#1 – The rods were pushed to 119 ft bgs, but the bladder pump could not be placed deeper than 46 ft bgs due to a bent rod located about 50 ft bgs;
- Attempt#2 – Rods pushed to 97 ft bgs, but bladder pump disconnected from tubing prior to obtaining the first sample; and
- Attempt#3 – Rods pushed to 87 ft bgs. Peristaltic pump and tubing first able to pull water from 65 ft bgs.

Discrete groundwater samples were then obtained from a depth of 65 ft bgs at 10-ft intervals to a depth of 25 ft bgs using the procedures described in the work plan.

3.2 Results

Results of the vertical profiling sampling and testing are summarized on Table 4 with the analytical laboratory report provided in Appendix E. Several VOC compounds and highest concentrations were encountered at the highest depth interval of 25 ft bgs. PCE and TCA were no longer detected at the 35 ft depth interval and deeper. TCE was detected at a relatively stable concentration with depth (0.6 ug/L) to the maximum depth sampled of 65 ft, however, well below the MCL of 5 ug/L. Cis DCE was also detected at a relatively stable concentration with depth to the maximum depth sampled of 65 ft, however, well below the MCL of 70 ug/L except at a depth of 35 ft bgs which was 72 ug/L.

4.0 Pump Response Test

4.1 Methods

A pump response test was conducted to determine if trends in monitoring well water levels are attributed to the start or termination of pumping wells from the Granville Well-field and which pumping wells closest and furthest from the Site have the most affect on the monitoring well water levels. Several deviations from the work plan were incurred as follows:

- The village pumping wells could not be fitted with water level transducers to obtain continuous depth measurements, so depths were obtained manually using a water level meter twice a day;
- Two of the extra transducers not used for the pumping wells were placed at monitoring wells MW-05 and GSSMW-04;
- Personnel from the Village of Granville Water Department did not follow the pumping well schedule prescribed in the work plan provided to them.

As noted in the work plan, a one-week long pump response test was proposed by temporarily pumping from the supply wells furthest and closest to the Granville Solvents Site (PW-4 and PW-2) as outlined in the following schedule:

- Monday: Shut down all pumps for 1 hour. Activate PW-4 only ;
- Wednesday: Shut down all pumps for 1 hour. Activate PW-2 only; and
- Friday afternoon: Remove all temporary pressure transducers and down-load data.

The pump test was conducted between June 10 and June 16, 2012. Only pumping well PW-2 ran at an average pump rate of 861 gpm (+/- 2%) from at least all day Sunday (June 10) through Tuesday at 4:20 PM at which time the pump was turned off. PW-4 was then activated at 5:00 PM and ran at an average pump rate of 667 gpm (+/- 2%) constantly through the end of the monitoring period at Friday, 2:00 PM.

4.2 Results

The collected data on pumping rates and water levels were plotted with time and are provided in Appendix F. As noted in the work plan, the purpose of the pump response test was to determine:

1. Whether trends in monitoring well water levels can be attributed to the start or termination of pumping wells from the Granville Well-field; and
2. Which pumping wells may have the most affect on the monitoring well water levels.

During the pumping of PW-2, all wells had declining water levels. The magnitude of the water level decline decreased with increased distance from PW-2. When pumping of PW-2 was terminated, water levels in pumping well PW-1 and monitoring wells GSSP3, MW-08 immediately began to recover. Following shut-down of PW-2 there was a delayed recovery response in monitoring wells GSSMW-13, MW-05 and GSSMW-04, which was expected given their increased distance from Well PW-2. Following shut-down of PW-2, the water levels at GSSM-04 and MW-05 stabilized, whereas the water level at GSSMW-13 rose slightly. It is noted that GSSMW-13 is screened deeper than GSSM-04 and MW-05.

Based on these observations, it appears that drawdown and recovery responses are evident when PW-2 was pumping and shut-down and that the monitoring wells are hydraulically connected to the same aquifer as the production wells. Pumping of PW-2 will likely have the most effect on water levels in the monitoring wells given the closer proximity to the monitoring wells. Pumping of PW-4 does not appear to have a significant effect on water levels in the monitoring wells.

It should be noted that original proposed testing schedule was preferred by pumping PW-4 first, then switching over to Well PW-2 with accurate pre-pumping and pumping water levels measured throughout the test. A pumping test that allowed for measurement of water levels under static conditions (no pumping from the production wells for several days) would be the most preferable way to analyze time-drawdown data, however; the Granville Well-field does not typically shut down all wells for a significant period of time. Analysis of time-drawdown data would allow one to determine the aquifer characteristics and quantify the amount of drawdown in the monitoring wells given various pumping scenarios using the production wells.

5.0 South Area Sampling

5.1 Methods

There were no deviations from the work plan.

5.2 Results

Results of the south area sampling and testing are summarized on Table 5 with the analytical laboratory report provided in Appendix E. As noted on Table 5, VOCs were not detected in any of the

four groundwater grab samples obtained near the top of the water table and just north of Raccoon Creek.

6.0 Attenuation Sampling/Testing

6.1 Methods

There were no deviations from the work plan.

6.2 Results

The boring log for sample location NA-1 is provided in Appendix G with a summary of the geotechnical results on Table 6 and a geotechnical report provided in Appendix H.

Subsurface conditions at boring location NA-1 were found to be consistent with previous borings advanced at the project site as illustrated on the geologic cross-sections A-A' and B-B' provided on Figures 7 and 8, respectively. At location NA-1, a shallow clay layer overlying silty sand was encountered prior to the main sand and gravel aquifer media. Specifically, the lean clay layer was found to be about 12 ft thick before grading to the silty sand layer which extended to a depth of 36 ft bgs. The lean clay layer had been sampled and tested for soil classification based on grain size analysis and plasticity during previous studies (Soil Data Report, M&E, 1996), however, no classification testing of the silty sand layer had been conducted. The silty clay layer classified as a silty clayey sand with gravel (SC-SM) or well-graded sand with silt (SW-SM). Of particular note was the presence of a 5-ft thick gravel layer embedded within the silty sand layer from 20 to 25 ft bgs. This layer was classified as a silty gravel with sand (GM).

Results of the attenuation sampling and testing are summarized on Table 7 with the analytical laboratory reports for soil and groundwater provided in Appendices H and I, respectively. Regarding biotic processes, results of dissolved methane, ethane and ethene (MEE) obtained in groundwater samples located within and outside the residual VOC plume area and outside this zone indicated that these compounds are not present other than a low detection of methane at MW-08.

Regarding abiotic processes, total iron in soil were highest in the lean clay and silty sand layers at 23,000 mg/kg and decreased with depth to 17,000 mg/kg in the silty gravel layer to 14,000 mg/kg in the sand and gravel. These levels are normal for Ohio soils which average about 17,000 mg/kg. Total manganese ranged from 260 to 420 mg/kg which is close to the state average of 476 mg/kg. Total iron and manganese in groundwater at the site were found to average 485 ug/L and 59 ug/l respectively which are below state averages for unconsolidated sand and gravel aquifers of 1425 ug/L for iron and 226 ug/L for manganese. Sulfate averaged 55 mg/L which is below the state average of 81 mg/L and nitrate averaged 2.89 mg/L which is above the state average of 0.87 mg/L.

Total organic carbon was highest in the silty sand layer at 1.1%, 0.56% in the silty gravel layer and lowest in the sand and gravel aquifer media at 0.23%.

7.0 Testing For 1,4-Dioxane

7.1 Methods

There were no deviations from the work plan.

7.2 Results

Results of the 1,4-dioxane using USEPA SW-846 Method 8260C using selected ion monitoring (SIM) mode are provided on the analytical laboratory report provided in Appendix D. The laboratory report indicates that 1,4-dioxane was not detected above the reporting limit of 2.0 ug/L at the groundwater sample collected from MW-06. The Ohio generic unrestricted potable use standard for 1,4-dioxane is 140 ug/L.

8.0 Conclusions

The 2010 Draft Removal Action Completion (RAC) Report dated July 30, 2010 was submitted to the United States Environmental Protection Agency (USEPA) in order to apply for a Notice of Completion (NOC) regarding removal actions conducted at the site between 1995 and 2005. Based on the RAC Report, the USEPA submitted Review Comments dated April 6, 2011 which indicated that the extraction system could not be removed and that groundwater monitoring should continue. Reasons cited by the comments include:

- The increasing strength of the VOC plume up-gradient of the leading edge wells;
- Unfavorable conditions for substantial natural attenuation of the VOC plume; and
- A long-term potential for the plume to adversely affect the Granville municipal wells due to occasional fluctuations of the potentiometric surface.

The comments concluded that several actions would be needed to better define the plume and the potential for municipal pumping to continue to affect the westward plume movement before the required work under the AOC is complete.

Based on results of the scope of work conducted for this work plan in conjunction with historic data, the following can be concluded:

- The VOC plume is not increasing in strength and is stable;
- Natural attenuation is occurring at the edges of the VOC plume; and
- Under limited conditions, groundwater does appear to occasionally flow from the project site toward the well-field without influencing movement of the VOC plume.

Based on current and historic VOC concentrations at the former source area as measured by the PCE iso-concentration maps since the remedial extraction wells were turned off (2005 to 2012), the horizontal extent of the residual VOC plume has decreased in size. In fact, the residual VOC plume size has decreased from 1.78 acres in August 2005 to 1.25 acres in May 2012, representing a 30% decrease in footprint over seven years with no active remedial energy applied. The residual TCE

plume has generally remained unchanged in size from 2005 to 2012. This may be occurring since TCE was a former source VOC and TCE is a degradation product of PCE by reductive dechlorination. The fact that other degradation products of PCE and TCE are present suggests some reductive dechlorination has occurred at this site. Since reductive dechlorination has occurred to some extent at this site and since the more saturated chlorinated compounds, like PCE, tend to be more amenable to dechlorination, it would seem that some of the TCE detected is the result of dechlorination of PCE.

The absence of VOC detections on the south side of the VOC plume where groundwater flow direction typically occurs also indicates a stable plume that is not moving. The vertical extent of the residual VOC plume appears to be stable with no migration west as evidenced by the vertical profiling results which were obtained only 50 ft west of GSSMW-15. The vertical profiling results also indicate that vertical migration of VOCs is not significant since VOC levels detected at 65 ft bgs are at concentrations an order of magnitude lower than the MCLs.

A comparison of VOC trend graphs of MW-02D and GSSMW-15 indicate that natural attenuation is occurring near the edge of the VOC plume, but not the core of the plume, which is typical for a stable plume. PCE and TCE breakdown components cis and trans DCE are present in both of these monitoring wells. The PCE levels are stable at MW-02D, but cis and trans DCE are below the PCE concentrations. Conversely, at GSSMW-15 near the western edge of the plume, the PCE level has been decreasing with an increase in breakdown component cis-DCE. This trend of decreasing PCE and increasing breakdown components increases moving west ward from MW-02D to GSSMW-15 to VG-1 and MW-08. Lower oxidation-reduction levels, indicative of reducing conditions needed for reductive dechlorination, are also present at GSSMW-08 and GSSMW-09.

TCA does not appear to be degrading in the source area. PCE and TCE appear to be degrading at about the same slow rates within the source area. The iron and manganese data suggest there is a plentiful natural source of iron and manganese in the system to enhance natural degradation; however, there is a lack of strong reducing conditions resulting in a condition referred to as DCE stall.

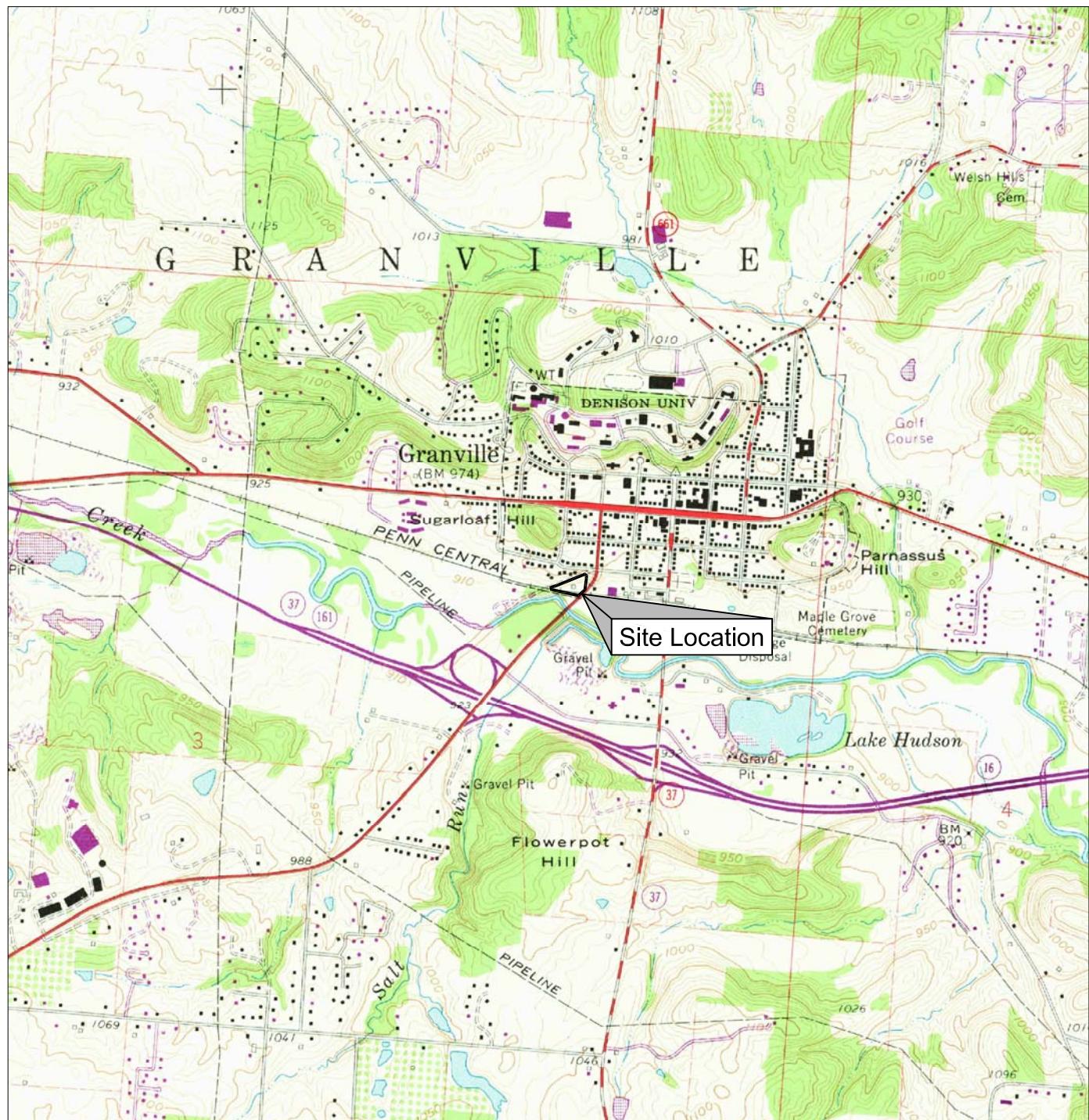
We have developed a revised conceptual site model of groundwater flow and plume behavior based on a review of the historic groundwater and analytical data to date and the recent data collected for this study. Absent the Village Well-field, groundwater flow would likely be to the east within the confines of the buried bedrock valley with recharge coming generally from the west, with influence from the south flowing groundwater from the northern valley slope and also influenced by north-south gradient reversals caused by fluctuations of Raccoon Creek water levels. This natural flow pattern is influenced by continuous pumping by the Village Well-field from lower portions of the buried valley aquifer from one well at a time in a variable staggered fashion. Horizontal groundwater flow direction in the vicinity of the site is complex due to the over-all natural gradient, proximity of the north side of the buried valley aquifer wall, variable recharge from multiple directions and pumping cycles from the Village Well-field. A potential groundwater divide does appear to exist depending on which pumping well is active, pumping rate, duration of pumping and fluctuations in creek levels. Groundwater at the site appears to be influenced most when PW-2 is active and creek levels are recharging the valley aquifer. Groundwater at the site appears to be influenced least when PW-4 is active and the valley aquifer is recharging the creek. Groundwater direction and gradient appear to fluctuate between these two conditions.

As previously noted in the work plan, the VOC rebound observed in some of the monitoring wells since the extraction well shut-down occurred in 2005 appears to be limited to monitoring wells screened in the silty sand layer between the upper clay layer and sand and gravel aquifer. It is likely that the VOC plume is present in the silty sand layer and possibly confined within the silty gravel layer encountered at boring NA-1. In the worst-case groundwater flow scenario, the gradient toward the

Village Well-field is not strong enough to cause migration of VOC-impacted groundwater to the west as evidence by the results of vertical groundwater VOC concentration profiling at VG-1 and the stable VOC plume conditions that exist. VOC degradation rates at the outer edges of the VOC plume indicate that VOC levels may decrease over time to below current action levels before impacting the compliance wells located 800 ft from GSSMW-15.

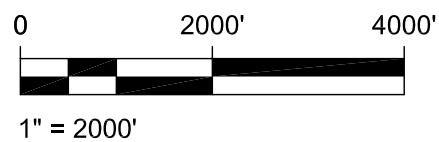
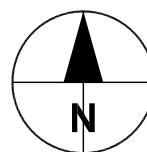
Based on this conclusion, we recommend implementing the scheduled 2012 fall groundwater sampling event.

Figures



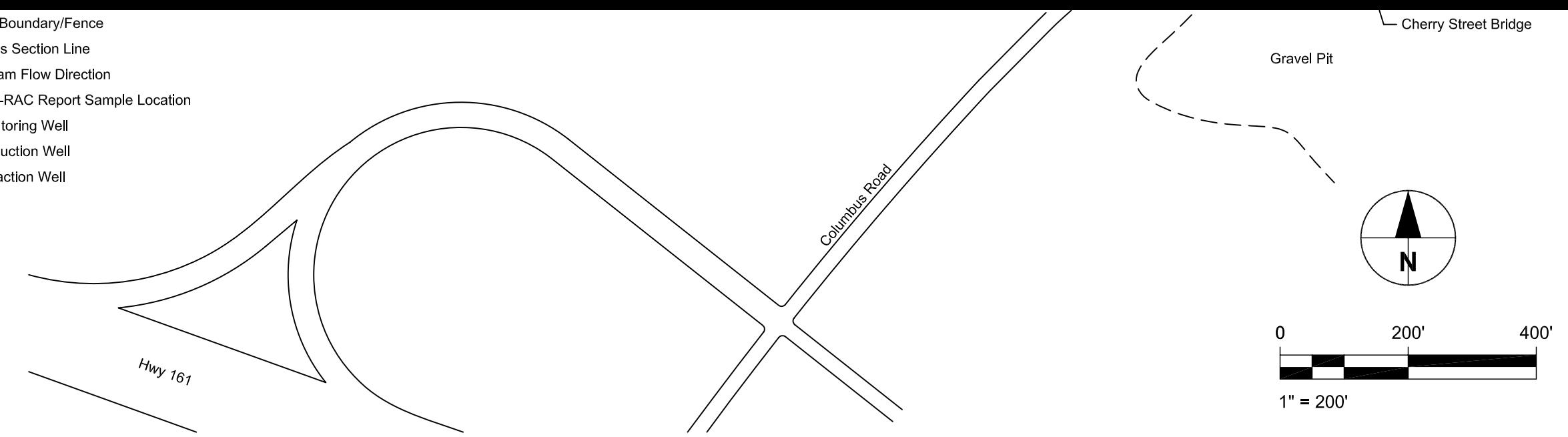
Quadrangle Location

Base Taken From USGS Granville, Ohio
7.5'-Series Topographic Quadrangle.
Date 1961. Photorevised 1974.
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- Site Boundary/Fence
- Cross Section Line
- Stream Flow Direction
- Post-RAC Report Sample Location
- Monitoring Well
- Production Well
- Extraction Well

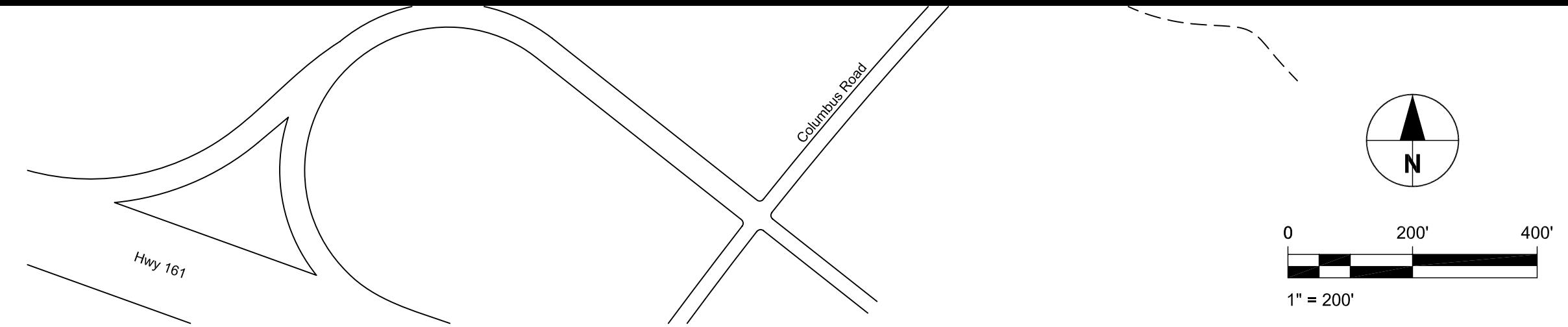


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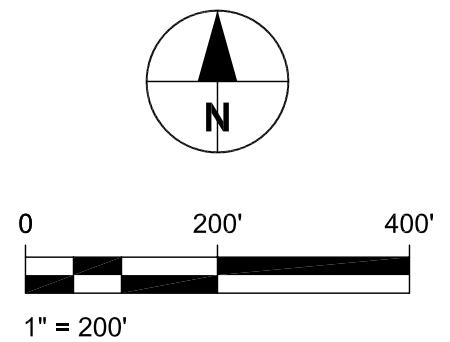
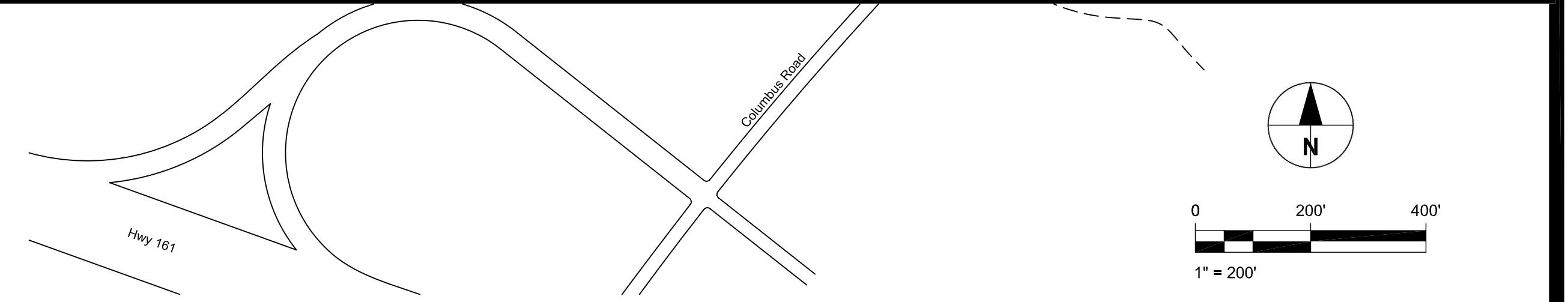
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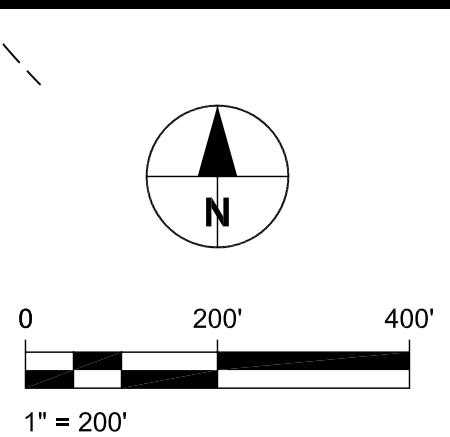
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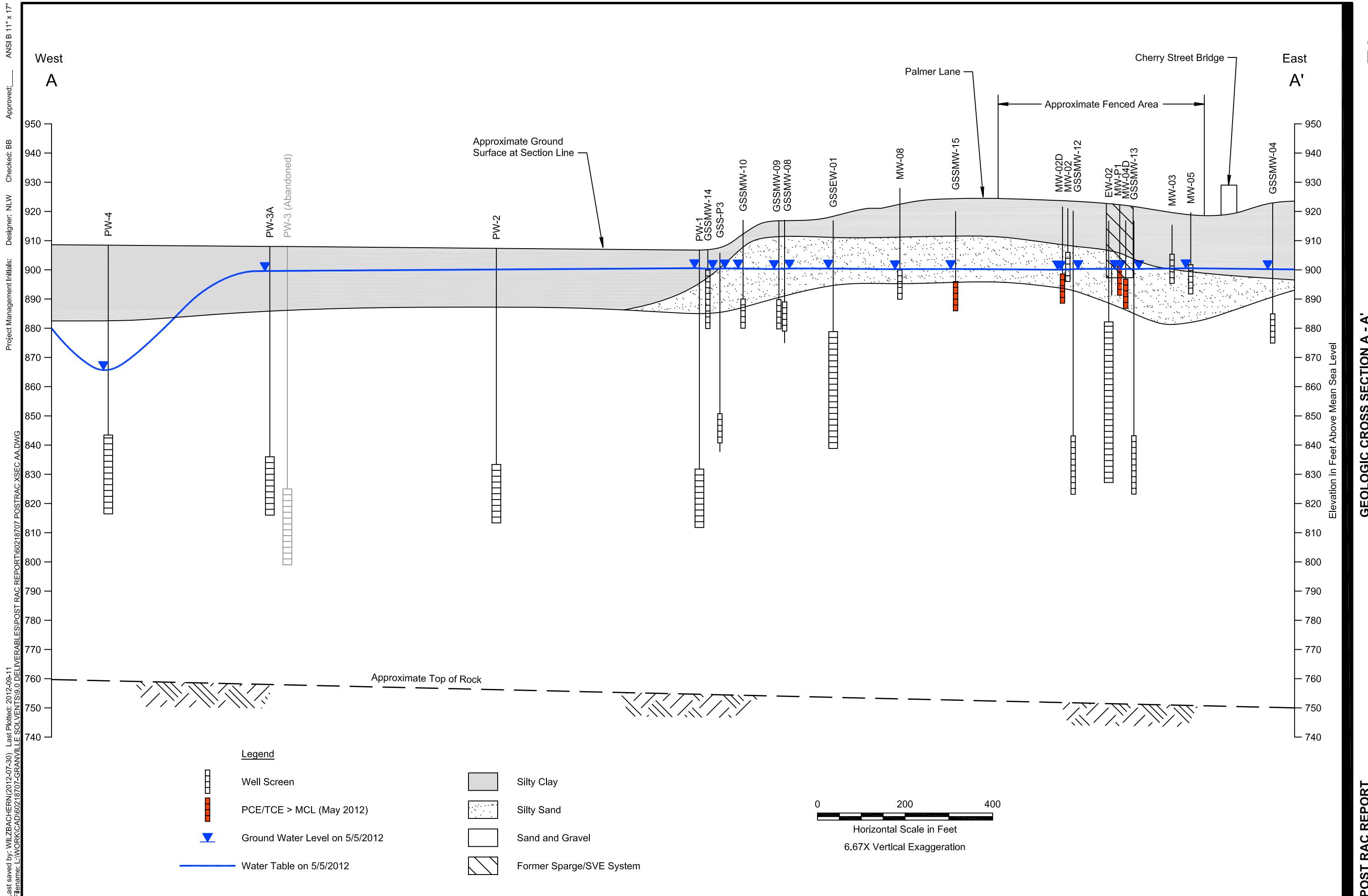


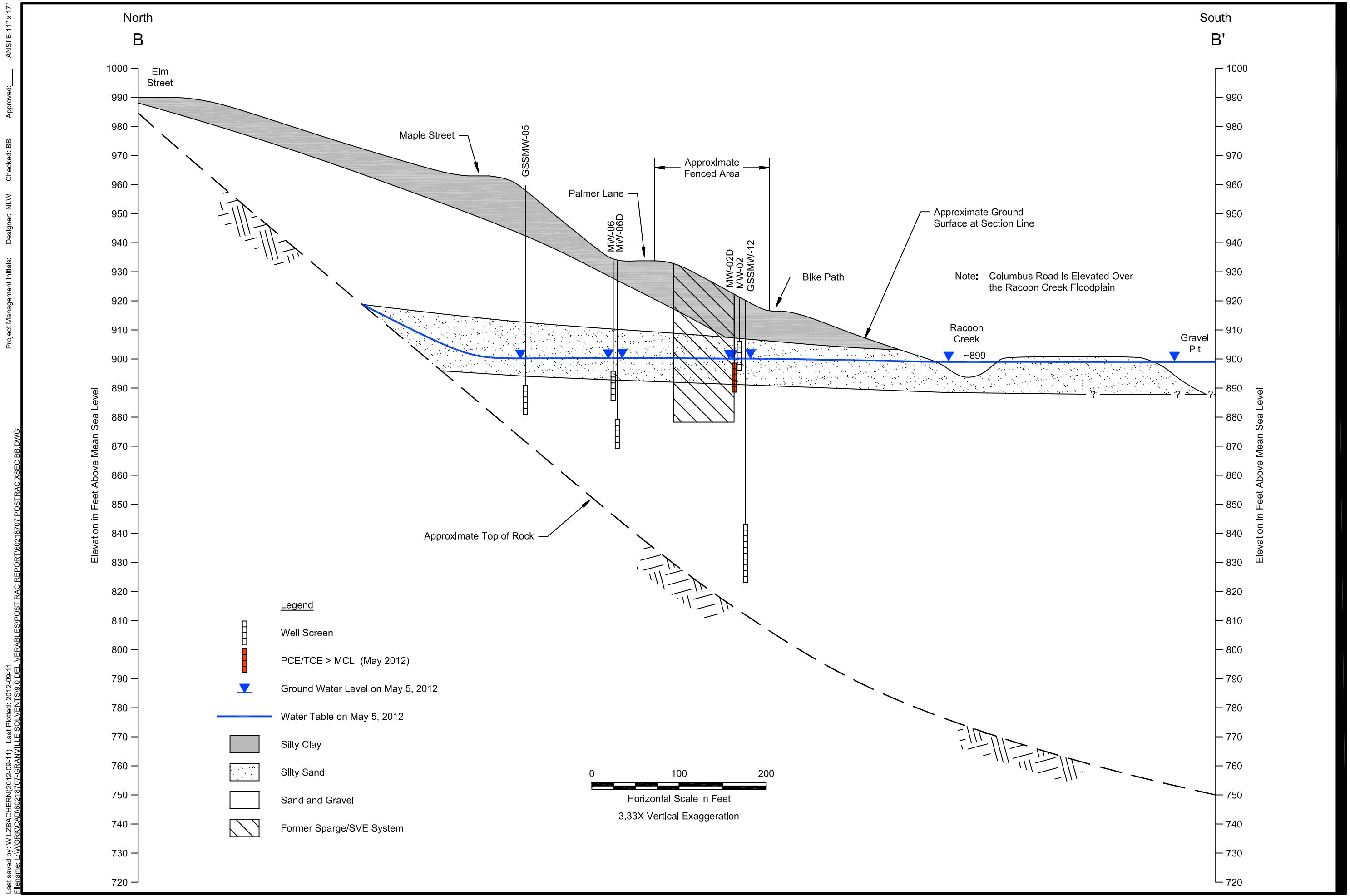
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GEOLOGIC CROSS SECTION B - B'


Tables

Table 1. Water Level Measurements

Granville Solvents Site

Granville, Ohio

Well	Date	Measuring Point Elevation (ft. AMSL) ⁽¹⁾	Depth to Water (ft.)	Potentiometric Surface Elevation (ft. AMSL)
EW-02	13-May-11	915.38	13.80	901.58
	2-Nov-11	915.38	16.40	898.98
	5-May-12	915.38	15.55	899.83
GSS-EW-01	13-May-11	915.56	13.40	902.16
	2-Nov-11	915.56	16.35	899.21
	5-May-12	915.56	15.11	900.45
GSS-MW-02*	13-May-11	910.75	8.80	901.95
	2-Nov-11	910.75	11.67	899.08
	5-May-12	910.75	10.45	900.30
GSS-MW-04*	13-May-11	924.68	22.89	901.79
	2-Nov-11	924.68	25.55	899.13
	5-May-12	924.68	24.43	900.25
GSS-MW-05	13-May-11	959.16	57.36	901.80
	2-Nov-11	959.16	60.07	899.09
	5-May-12	959.16	58.96	900.20
GSS-MW-06	13-May-11	960.80	56.07	904.73
	2-Nov-11	960.80	Decommissioned	Decommissioned
	5-May-12	960.80	Decommissioned	Decommissioned
GSS-MW-08	13-May-11	917.01	14.75	902.26
	2-Nov-11	917.01	17.94	899.07
	5-May-12	917.01	16.56	900.45
GSS-MW-09	13-May-11	916.17	14.05	902.12
	2-Nov-11	916.17	17.20	898.97
	5-May-12	916.17	15.88	900.29
GSS-MW-10*	13-May-11	916.65	14.29	902.36
	2-Nov-11	916.65	17.65	899.00
	5-May-12	916.65	16.16	900.49
GSS-MW-12*	13-May-11	923.36	21.52	901.84
	2-Nov-11	923.36	24.16	899.20
	5-May-12	923.36	23.06	900.30
GSS-MW-13*	13-May-11	920.40	18.59	901.81
	2-Nov-11	920.40	21.18	899.22
	5-May-12	920.40	20.10	900.30
GSS-MW-14	13-May-11	906.82	1.00	905.82
	2-Nov-11	906.82	7.75	899.07
	5-May-12	906.82	6.48	900.34
GSS-MW-15	13-May-11	919.94	18.07	901.87
	2-Nov-11	919.94	20.75	899.19
	5-May-12	919.94	19.64	900.30
GSS-P2	13-May-11	913.58	11.51	902.07
	2-Nov-11	913.58	14.45	899.13
	5-May-12	913.58	13.22	900.36
GSS-P3	13-May-11	905.71	3.42	902.29
	2-Nov-11	905.71	6.84	898.87
	5-May-12	905.71	5.22	900.49
MW-01*	13-May-11	930.21	28.57	901.64
	2-Nov-11	930.21	31.17	899.04
	5-May-12	930.21	30.10	900.11
MW-02	13-May-11	923.68	22.05	901.63
	2-Nov-11	923.68	24.68	899.00

Table 1. Water Level Measurements

Granville Solvents Site

Granville, Ohio

Well	Date	Measuring Point Elevation (ft. AMSL) ⁽¹⁾	Depth to Water (ft.)	Potentiometric Surface Elevation (ft. AMSL)
MW-02D	5-May-12	923.68	23.63	900.05
	13-May-11	924.20	22.52	901.68
	2-Nov-11	924.20	25.13	899.07
	5-May-12	924.20	24.05	900.15
MW-03	13-May-11	917.27	6.15	911.12
	2-Nov-11	917.27	5.40	911.87
	5-May-12	917.27	8.85	908.42
MW-04D	13-May-11	920.75	18.96	901.79
	2-Nov-11	920.75	21.54	899.21
	5-May-12	920.75	20.48	900.27
MW-04D2*	13-May-11	921.14	19.35	901.79
	2-Nov-11	921.14	21.92	899.22
	5-May-12	921.14	20.87	900.27
MW-05*	13-May-11	921.79	19.72	902.07
	2-Nov-11	921.79	22.28	899.51
	5-May-12	921.79	21.24	900.55

Table 1. Water Level Measurements

Granville Solvents Site

Granville, Ohio

Well	Date	Measuring Point Elevation (ft. AMSL) ⁽¹⁾	Depth to Water (ft.)	Potentiometric Surface Elevation (ft. AMSL)
MW-06*	13-May-11	936.06	34.23	901.83
	2-Nov-11	936.06	36.86	899.20
	5-May-12	936.06	35.79	900.27
MW-06D	13-May-11	936.43	34.37	902.06
	2-Nov-11	936.43	37.03	899.40
	5-May-12	936.43	35.97	900.46
MW-07*	13-May-11	917.90	16.22	901.68
	2-Nov-11	917.90	18.78	899.12
	5-May-12	917.90	17.74	900.16
MW-07D	13-May-11	917.96	16.15	901.81
	2-Nov-11	917.96	18.89	899.07
	5-May-12	917.96	17.73	900.23
MW-08	13-May-11	928.12	26.03	902.09
	2-Nov-11	928.12	29.05	899.07
	5-May-12	928.12	27.89	900.23
MW-08D	13-May-11	927.84	26.01	901.83
	2-Nov-11	927.84	28.83	899.01
	5-May-12	927.84	27.85	899.99
MW-P1	13-May-11	924.00	22.15	901.85
	2-Nov-11	924.00	24.71	899.29
	5-May-12	924.00	23.65	900.35
PW-01	13-May-11	909.06	6.77	902.29
	28-Oct-11	909.06	8.33	900.73
	5-May-12	909.06	8.49	900.57
PW-02	13-May-11	908.95	7.88	901.07
	28-Oct-11	908.95	9.17	899.78
PW-03A	13-May-11	910.27	8.46	901.81
	28-Oct-11	910.27	10.17	900.10
	5-May-12	910.27	10.63	899.64
PW-04	13-May-11	910.59	34.81	875.78
	28-Oct-11	910.59	10.50	900.09
	5-May-12	910.59	44.89	865.70
River	13-May-11	904.73	5.18	899.55
	3-Nov-11	904.73	4.30	900.43
	5-May-12	904.73	4.10	900.63

ft - feet

amsl - above mean sea level

* Well equipped with a dedicated sampling pump.

⁽¹⁾ Based on Top of Casing survey conducted May 2011.

Comparison of Water Elevations between November 2011 and May 2012

Average November 2011 (ft.):	899.68
Average May 2012 (ft.):	899.45
Change in Average (ft.):	-0.23

Table 2. Monitoring Well Purging Data

Granville Solvents Site

Granville, Ohio

Well	Date	Volume Purged (gal.)	Sediment Content (ntu)	pH	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Specific Conductance ($\mu\text{S}/\text{cm}$)	Temp (°C)
MW-02D	30-May-12	1.95	21.3	6.67	NR	201	1,130	14.35
			20.9	6.67	NR	203	1,130	14.25
			20.4	6.69	NR	205	1,130	14.24
MW-04D	30-May-12	1.75	4.7	6.36	NR	210	897	18.53
			5.6	6.35	NR	210	894	18.93
			5.3	6.35	NR	211	889	19.16
MW-06	1-Jun-12	1.70	0.3	5.22	NR	280	1,310	14.02
			0.1	5.24	NR	278	1,300	13.97
			0.0	5.27	NR	276	1,300	13.89
MW-07D	1-Jun-12	2.00	5.2	5.57	NR	216	1,250	14.73
			4.1	5.59	NR	210	1,250	14.70
			3.2	5.61	NR	207	1,250	14.67
MW-08	31-May-12	2.30	0.0	6.50	NR	248	696	12.86
			0.0	6.54	NR	243	698	12.83
			0.0	6.58	NR	240	698	12.89
MW-P1	30-May-12	1.50	4.0	6.70	NR	146	1,420	15.25
			5.1	6.70	NR	144	1,420	15.12
			4.9	6.71	NR	143	1,420	15.08
GSSMW-08	31-May-12	2.00	9.4	6.50	NR	104	968	13.99
			7.4	6.54	NR	100	965	13.88
			5.3	6.58	NR	96	964	13.86
GSSMW-09	31-May-12	2.4	18.2	6.80	NR	-57	792	16.00
			18.0	6.83	NR	-61	796	15.90
			17.7	6.87	NR	-65	791	15.94
GSSMW-15	30-May-12	1.50	25.7	5.59	NR	207	978	14.61
			25.4	6.62	NR	205	979	14.47
			25.3	6.66	NR	203	978	14.50

Notes:

NC - Not Collected

Purge data represents the last three consecutive readings collected prior to sampling.

NR - No Reading/Equipment Malfunction

Table 3. Summary of Groundwater Analytical Results
 Granville Solvents Site
 Granville, Ohio

Sample Location	Sample Date	PCE ($\mu\text{g}/\text{L}$)	TCE ($\mu\text{g}/\text{L}$)	cis-1,2-DCE ($\mu\text{g}/\text{L}$)	trans-1,2-DCE ($\mu\text{g}/\text{L}$)	1,1,1-TCA ($\mu\text{g}/\text{L}$)
MCL		5	5	70	100	200
MW-02D	8-May-96	430	590	250	---	350
	5-May-97	390	450	140	---	250
	5-May-98	400	380	110	---	220
	10-May-99	190	220	40	---	120
	15-May-00	210	220	42	---	120
	23-May-01	230	170	38	---	93
	6-May-02	160	120	13	---	55
	6-May-03	130	90	9.8	---	40
	10-May-04	68	34	6.6	---	17
	10-Aug-05	110	59	17	---	36
	4-May-06	51	63	16	---	31
	20-Jul-06	69	60	15	---	29
	16-May-07	130	130	28	1.1	71
	25-Sep-07	150	120	28	1.5	71
	25-Apr-08	140	150	38	1.7	81
	5-Sep-08	180	190	48	2.1	120
	31-Mar-09	150	180	1.7	2.5	98
	15-Sep-09	150	220	43	2.6	110
	11-May-11	140	190	35	2.4	100
	3-Nov-11	130	200	30	1.5	110
	30-May-12	180	350	41	2.4	200

Table 3. Summary of Groundwater Analytical Results
 Granville Solvents Site
 Granville, Ohio

Sample Location	Sample Date	PCE ($\mu\text{g}/\text{L}$)	TCE ($\mu\text{g}/\text{L}$)	cis-1,2-DCE ($\mu\text{g}/\text{L}$)	trans-1,2-DCE ($\mu\text{g}/\text{L}$)	1,1,1-TCA ($\mu\text{g}/\text{L}$)
MCL		5	5	70	100	200
MW-04D	8-May-96	110	280	150	---	110
	6-May-97	66	440	97	---	170
	5-May-98	130	680	77	---	220
	10-May-99	64	360	59	---	100
	15-May-00	92	600	33	---	170
	23-May-01	510	320	93	---	68
	27-Feb-02	36	150	49	---	45
	6-May-02	87	150	27	---	37
	5-Aug-02	63	150	33	---	40
	6-Nov-02	59	340	---	---	130
	26-Feb-03	40	120	48	---	35
	6-May-03	59	190	32	---	59
	27-Aug-03	45	120	47	1.5	42
	10-May-04	41	73	26	0.79	23
	10-Aug-05	72	130	3.7	---	43
	4-May-06	54	100	---	---	38
	19-Jul-06	83	150	---	---	59
	16-May-07	64	110	15	0.83	44
	25-Sep-07	120	270	9.4	0.48	130
	25-Apr-08	56	51	7.7	0.43	28
	5-Sep-08	64	65	13	0.71	28
	31-Mar-09	64	91	---	0.75	40
	15-Sep-09	90	180	16	0.90	64
	11-May-11	79	91	5.7	---	46
	2-Nov-11	59	86	6.1	---	46
	30-May-12	46	59	0.62	---	38

Table 3. Summary of Groundwater Analytical Results
 Granville Solvents Site
 Granville, Ohio

Sample Location	Sample Date	PCE ($\mu\text{g}/\text{L}$)	TCE ($\mu\text{g}/\text{L}$)	cis-1,2-DCE ($\mu\text{g}/\text{L}$)	trans-1,2-DCE ($\mu\text{g}/\text{L}$)	1,1,1-TCA ($\mu\text{g}/\text{L}$)
MCL		5	5	70	100	200
MW-06	8-May-96	---	78	---	---	380
	6-May-97	---	47	---	---	430
	4-May-98	---	36	---	---	370
	10-May-99	---	23	---	---	330
	15-May-00	---	26	---	---	320
	23-May-01	---	31	---	---	340
	6-May-02	---	19	---	---	230
	26-Feb-03	---	0.1	---	---	0
	5-May-03	---	20	---	---	200
	10-May-04	---	10	---	---	180
	10-Aug-05	---	7.8	---	---	130
	4-May-06	2.8	12	---	---	130
	20-Jul-06	0.1	10	---	---	170
	17-May-07	0.1	13	---	---	220
	25-Sep-07	0.62	17	---	---	220
	25-Apr-08	0.61	16	---	---	180
	5-Sep-09	0.62	16	---	---	180
	31-Mar-09	0.49	13	---	---	180
	5-Sep-09	0.83	19	---	---	170
	11-May-11	0.68	16	---	---	140
	3-Nov-11	0.81	14	---	---	130
	1-Jun-12	0	15	---	---	150

Table 3. Summary of Groundwater Analytical Results
 Granville Solvents Site
 Granville, Ohio

Sample Location	Sample Date	PCE ($\mu\text{g}/\text{L}$)	TCE ($\mu\text{g}/\text{L}$)	cis-1,2-DCE ($\mu\text{g}/\text{L}$)	trans-1,2-DCE ($\mu\text{g}/\text{L}$)	1,1,1-TCA ($\mu\text{g}/\text{L}$)
MCL		5	5	70	100	200
MW-07D	8-May-96	---	---	---	---	---
	5-May-97	---	---	---	---	---
	4-May-98	---	---	---	---	---
	10-May-99	---	---	---	---	---
	15-May-00	---	---	---	---	---
	23-May-01	---	---	---	---	---
	6-May-02	---	---	---	---	---
	5-May-03	---	---	---	---	---
	10-May-04	---	---	---	---	---
	10-Aug-05	---	---	---	---	---
	4-May-06	---	---	---	---	---
	19-Jul-06	---	---	---	---	---
	17-May-07	---	---	---	---	---
	25-Sep-07	---	---	---	---	---
	25-Apr-08	---	---	---	---	---
	5-Sep-08	---	---	---	---	---
	31-Mar-09	---	---	---	---	---
	14-Sep-09	---	---	---	---	---
	10-May-11	---	---	---	---	---
	3-Nov-11	---	---	---	---	---
	1-Jun-12	---	---	---	---	---

Table 3. Summary of Groundwater Analytical Results
 Granville Solvents Site
 Granville, Ohio

Sample Location	Sample Date	PCE ($\mu\text{g}/\text{L}$)	TCE ($\mu\text{g}/\text{L}$)	cis-1,2-DCE ($\mu\text{g}/\text{L}$)	trans-1,2-DCE ($\mu\text{g}/\text{L}$)	1,1,1-TCA ($\mu\text{g}/\text{L}$)
MCL		5	5	70	100	200
MW-08	8-May-96	---	---	---	---	---
	10-Dec-96	---	---	49	5.0	---
	19-Feb-97	---	---	55	5.8	---
	5-May-97	---	---	1	1	---
	12-Aug-97	---	0.9	36	3	---
	12-Dec-97	---	---	56	6	---
	1-Feb-98	---	---	50	5.4	---
	4-May-98	---	---	44	4.0	---
	6-Aug-98	---	---	51	5.4	---
	19-Nov-98	---	---	65	1	---
	5-Feb-99	---	---	45	3.3	---
	10-May-99	---	---	29	2.4	---
	5-Aug-99	---	---	79	8.0	---
	4-Nov-99	---	---	1	1.0	---
	2-Feb-00	---	---	85	9.9	---
	15-May-00	---	---	99	10	---
	21-Aug-00	---	---	75	8.3	---
	7-Nov-00	---	---	76	8.2	---
	23-May-01	---	---	69	7.4	---
	28-Nov-01	---	---	68	7.8	---
	27-Feb-02	---	---	68	6.9	---
	6-May-02	---	---	45	3.8	---
	5-Aug-02	---	---	60	5.0	---
	5-Nov-02	---	---	67	6.8	---
	26-Feb-03	---	---	77	7.8	---
	5-May-03	---	---	69	7.0	---
	27-Aug-03	---	---	56	6.4	---
	11-Nov-03	---	---	74	7.2	---
	3-Feb-04	---	---	53	4.8	---
	10-May-04	---	---	46	4.3	---
	4-Aug-04	---	---	70	7.2	---
	1-Feb-05	---	---	24	2.1	---
	11-Aug-05	---	---	36	3.6	---
	4-May-06	---	---	45	4.7	---
	20-Jul-06	---	---	28	3.1	---
	16-May-07	---	---	26	2.3	---
	25-Sep-07	---	---	73	9.3	---
	25-Apr-08	---	---	24	2.6	---
	5-Sep-08	---	---	34	3.7	---
	31-Mar-09	---	---	40	5.1	---
	14-Sep-09	---	---	68	8.9	---
	10-May-11	---	---	36	5.1	---
	3-Nov-11	---	---	34	4.5	---
	31-May-12	---	---	17	2.0	---

Table 3. Summary of Groundwater Analytical Results
 Granville Solvents Site
 Granville, Ohio

Sample Location	Sample Date	PCE ($\mu\text{g}/\text{L}$)	TCE ($\mu\text{g}/\text{L}$)	cis-1,2-DCE ($\mu\text{g}/\text{L}$)	trans-1,2-DCE ($\mu\text{g}/\text{L}$)	1,1,1-TCA ($\mu\text{g}/\text{L}$)
MCL		5	5	70	100	200
MW-P1	8-May-96	540	1400	---	---	720
	6-May-97	340	730	---	---	460
	5-May-98	370	550	---	---	380
	10-May-99	170	380	---	---	350
	15-May-00	160	420	---	---	300
	23-May-01	180	330	---	---	300
	27-Feb-02	94	150	---	---	150
	6-May-02	110	140	---	---	130
	5-Aug-02	100	120	---	---	130
	6-Nov-02	120	110	---	---	82
	26-Feb-03	100	88	---	---	86
	6-May-03	100	88	---	---	100
	27-Aug-03	110	56	---	---	60
	10-May-04	53	55	---	---	160
	10-Aug-05	60	41	---	---	60
	4-May-06	45	36	---	---	38
	19-Jul-06	43	32	---	---	35
	16-May-07	50	36	---	---	39
	25-Sep-07	88	42	---	---	55
	25-Apr-08	19	21	2.3	---	12
	5-Sep-08	42	32	1.3	---	27
	31-Mar-09	41	27	---	0.33	22
	14-Sep-09	67	38	1.5	---	31
	11-May-11	83	34	1.9	---	29
	2-Nov-11	45	33	1.6	---	22
	30-May-12	54	33	250	---	30

Table 3. Summary of Groundwater Analytical Results
 Granville Solvents Site
 Granville, Ohio

Sample Location	Sample Date	PCE ($\mu\text{g}/\text{L}$)	TCE ($\mu\text{g}/\text{L}$)	cis-1,2-DCE ($\mu\text{g}/\text{L}$)	trans-1,2-DCE ($\mu\text{g}/\text{L}$)	1,1,1-TCA ($\mu\text{g}/\text{L}$)
MCL		5	5	70	100	200
GSSMW-08	9-May-96	---	---	---	---	---
	27-Aug-96	---	---	---	---	---
	10-Dec-96	---	---	---	---	---
	19-Feb-97	---	---	---	---	---
	5-May-97	---	---	---	---	---
	12-Aug-97	---	0.58	---	---	---
	11-Dec-97	---	---	---	---	---
	1-Feb-98	---	---	---	---	---
	4-May-98	---	---	---	---	---
	6-Aug-98	---	---	---	---	---
	19-Nov-98	---	---	---	---	---
	5-Feb-99	---	---	---	---	---
	10-May-99	---	---	---	---	---
	5-Aug-99	---	---	---	---	---
	2-Feb-00	---	---	---	---	---
	15-May-00	---	---	---	---	---
	21-Aug-00	---	---	---	---	---
	5-Feb-01	---	---	---	---	---
	23-May-01	---	---	---	---	---
	1-Aug-01	---	---	---	---	---
	28-Nov-01	---	---	---	---	---
	27-Feb-02	---	---	---	---	---
	6-May-02	---	---	---	---	---
	5-Aug-02	---	---	---	---	---
	5-Nov-02	---	---	---	---	---
	26-Feb-03	---	---	---	---	---
	5-May-03	---	---	---	---	---
	27-Aug-03	---	---	---	---	---
	11-Nov-03	---	---	---	---	---
	3-Feb-04	---	---	---	---	---
	10-May-04	---	---	---	---	---
	4-Aug-04	---	---	---	---	---
	1-Feb-05	---	---	---	---	---
	11-Aug-05	---	---	---	---	---
	4-May-06	---	---	---	---	---
	20-Jul-06	---	---	---	---	---
	17-May-07	---	---	---	---	---
	25-Sep-07	---	---	---	---	---
	25-Apr-08	---	---	---	---	---
	4-Sep-08	---	---	---	---	---
	30-Mar-09	---	---	---	---	---
	14-Sep-09	---	---	---	---	---
	10-May-11	---	---	---	---	---
	3-Nov-11	---	---	---	---	---
	31-May-12	---	---	---	---	---

Table 3. Summary of Groundwater Analytical Results
 Granville Solvents Site
 Granville, Ohio

Sample Location	Sample Date	PCE ($\mu\text{g}/\text{L}$)	TCE ($\mu\text{g}/\text{L}$)	cis-1,2-DCE ($\mu\text{g}/\text{L}$)	trans-1,2-DCE ($\mu\text{g}/\text{L}$)	1,1,1-TCA ($\mu\text{g}/\text{L}$)
MCL		5	5	70	100	200
GSSMW-09	9-May-96	---	---	---	---	---
	27-Aug-96	---	---	---	---	---
	10-Dec-96	---	---	---	---	---
	19-Feb-97	---	---	---	---	---
	5-May-97	---	---	---	---	---
	12-Aug-97	---	---	---	---	---
	11-Dec-97	---	---	---	---	---
	1-Feb-98	---	---	---	---	---
	4-May-98	---	---	---	---	---
	6-Aug-98	---	---	---	---	---
	19-Nov-98	---	---	---	---	---
	5-Feb-99	---	---	---	---	---
	10-May-99	---	---	---	---	---
	5-Aug-99	---	---	---	---	---
	4-Nov-99	---	---	---	---	---
	2-Feb-00	---	---	---	---	---
	15-May-00	---	---	---	---	---
	21-Aug-00	---	---	---	---	---
	7-Nov-00	---	---	---	---	---
	5-Feb-01	---	---	---	---	---
	23-May-01	---	---	---	---	---
	1-Aug-01	---	---	---	---	---
	28-Nov-01	---	---	---	---	---
	27-Feb-02	---	---	---	---	---
	6-May-02	---	---	---	---	---
	5-Aug-02	---	---	---	---	---
	5-Nov-02	---	---	---	---	---
	26-Feb-03	---	---	---	---	---
	5-May-03	---	---	---	---	---
	27-Aug-03	---	---	---	---	---
	11-Nov-03	---	---	---	---	---
	3-Feb-04	---	---	0.28	---	---
	10-May-04	---	---	---	---	---
	4-Aug-04	---	---	---	---	---
	1-Feb-05	---	---	---	---	---
	11-Aug-05	---	---	---	---	---
	4-May-06	---	---	---	---	---
	20-Jul-06	---	---	---	---	---
	16-May-07	---	---	---	---	---
	25-Sep-07	---	---	---	---	---
	25-Apr-08	---	---	---	---	---
	5-Sep-08	---	0.24	---	---	---
	31-Mar-09	---	---	---	---	---
	14-Sep-09	---	---	---	---	---
	10-May-11	---	---	---	---	---
	3-Nov-11	No Sample - Sampling Pump Inoperable				
	31-May-12	---	---	---	---	---

Table 3. Summary of Groundwater Analytical Results
 Granville Solvents Site
 Granville, Ohio

Sample Location	Sample Date	PCE ($\mu\text{g}/\text{L}$)	TCE ($\mu\text{g}/\text{L}$)	cis-1,2-DCE ($\mu\text{g}/\text{L}$)	trans-1,2-DCE ($\mu\text{g}/\text{L}$)	1,1,1-TCA ($\mu\text{g}/\text{L}$)
MCL		5	5	70	100	200
GSSMW-15	9-Sep-05	6.1	25	6.1	---	21
	4-May-06	7.2	22	4.1	---	19
	14-Jun-06	13	23	6.0	---	19
	19-Jul-06	8.6	24	7.1	---	18
	16-May-07	7.8	37	13	0.74	30
	25-Sep-07	12	35	9.9	0.67	33
	25-Apr-08	11	41	17	1.2	35
	5-Sep-08	12	47	19	1.2	37
	31-Mar-09	8.9	35	8.9	0.61	30
	15-Sep-09	26	38	11	0.72	30
	11-May-11	12	44	11	0.74	34
	3-Nov-11	9.1	32	12	0.94	29
	30-May-12	9.2	43	20	1.4	42

Table 3. Summary of Groundwater Analytical Results
 Granville Solvents Site
 Granville, Ohio

Sample Location	Sample Date	PCE ($\mu\text{g/L}$)	TCE ($\mu\text{g/L}$)	cis-1,2-DCE ($\mu\text{g/L}$)	trans-1,2-DCE ($\mu\text{g/L}$)	1,1,1-TCA ($\mu\text{g/L}$)
MCL		5	5	70	100	200
GSSEW-01	20-Jul-06	---	---	---	---	---
	17-May-07	---	---	0.5	---	---
	25-Apr-08	---	---	---	---	---
	30-Mar-09	---	---	0.79	---	---
	10-May-11	---	---	0.58	---	---
	3-Nov-11	---	---	---	---	---

Notes:

All results expressed in ug/l (parts per billion)

Sample results which are non-detect are shown as --- in the table

MCL - Maximum contaminant level

PCE - Tetrachloroethene

TCE - Trichloroethene

DCE - cis-1,2-Dichloroethene

trans-1,2-DCE - trans-1,2-Dichloroethene

1,1,1-TCA - 1,1,1-Trichloroethane

Table 4. Summary of Vertical Profiling Results

Granville Solvents Site

Granville, Ohio

Sample Location	Depth	Sample Date	PCE ($\mu\text{g}/\text{L}$)	TCE ($\mu\text{g}/\text{L}$)	DCE ($\mu\text{g}/\text{L}$)	cis- 1,2-DCE ($\mu\text{g}/\text{L}$)	trans- 1,2-DCE ($\mu\text{g}/\text{L}$)	1,1,1-TCA ($\mu\text{g}/\text{L}$)
VG1	25	6-Jun-12	1.1	14	0.58	4.5	---	15
VG1	35	6-Jun-12	---	0.60	9.2	72	3.6	---
VG1	45	6-Jun-12	---	---	---	0.81	---	---
VG1	55	6-Jun-12	---	0.56	---	1.2	---	---
VG1	65	6-Jun-12	---	0.6	---	1.5	---	---

Table 5. Summary of South Area Sampling Results
 Granville Solvents Site
 Granville, Ohio

Sample Location	Depth (Below TOC)	Sample Date	PCE (µg/L)	TCE (µg/L)	DCE (µg/L)	trans-1,2-DCE (µg/L)	1,1,1-TCA (µg/L)
DG-1	31.1	5-Jun-12	---	---	---	---	---
DG-2	19.9	5-Jun-12	---	---	---	---	---
DG-3	21.0	5-Jun-12	---	---	---	---	---
DG-4	20.8	5-Jun-12	---	---	---	---	---

Table 6
 Summary of Geotechnical Results
 Granville Solvents
 Granville, Ohio

Sample Location	Depth Interval (ft bgs)	Date	Soil Color	Size Distribution				Atterburg Limits			USCS Classification	Lithologic Unit
				Gravel (%)	Sand (%)	Silt (%)	Clay (%)	LL	PL	PI		
NA1(10-15')-060512	10'-15'	5-Jun-12	Brown	24.6	34	26.8	14.6	22	17	5	SC-SM	Silty Clayey Sand with Gravel
NA1(17-18.5')-060512	17-18.5	5-Jun-12	Brown	26.9	28.7	23.9	20.5	21	15	6	SC-SM	Silty Clayey Sand with Gravel
NA1(20-25')-060512	20'-25'	5-Jun-12	Brown	55.1	28.7	11.7	4.6	0	0	NP	GM	Silty Gravel with Sand
NA1(32-36')-060512	32'-36'	5-Jun-12	Brown	28.3	62.1	7.6	2	0	0	NP	SW-SM	Well Graded Sand with Silt

Notes: ft bgs - feet below ground surface

cm/sec - centimeters per second

USDA - United States Department of Agriculture

USCS - Unified Soil Classification System

USCS Classifications:

CL Lean Clay

ML Silt

SM Sandy Silt

SP-SM Poorly Graded Sand/Silty Sand

NA = not analyzed

NP = Non Plastic

Table 7. Summary of Attenuation Sampling Results
 Granville Solvents Site
 Granville, Ohio

Impacted Zone	Sample Location	Sample Depth	Sample Date	Groundwater								Nitrate as N (mg/L)	Sulfate (mg/L)	
				MEE Results			Metals							
				Ethane (µg/L)	Ethylene (µg/L)	Methane (µg/L)	Total Iron (µg/L)	Total Mn (µg/L)	Diss. Iron (µg/L)	Diss. Mn (µg/L)				
Yes	MW-P1	26.0'	30-May-12	<1.1	<1.0	<0.58	370	18	<50	<10	3.7	73		
	MW-02D	28.0'	30-May-12	<1.1	<1.0	<0.58	1100	21	<50	<10	4.4	67		
	MW-04D	27.5'	30-May-12	<1.1	<1.0	<0.58	410	18	<50	<10	0.73	37		
No	MW-05	23.0'	31-May-12	<1.1	<1.0	<0.58	200	<10	<50	<10	3.1	53		
	MW-08	33.0'	31-May-12	<1.1	<1.0	3.1	<100	19	<50	<10	4.5	24		
	GSSMW-15	29.0'	30-May-12	<1.1	<1.0	<0.58	730	270	<50	<10	0.92	79		

Sample Location	Soil					
	Depth	Sample Date	Total Fe (mg/kg)	Total Mn (mg/kg)	TOC (%)	Moisture (%)
NA-1	10'-15'	5-Jun	23000	410	0.40	11
NA-1	17'-18.5'	5-Jun	23000	420	1.1	10
NA-1	20'-25'	5-Jun	17000	310	0.56	11
NA-1	32'-36'	5-Jun	14000	260	0.23	19

Appendix A

Post RAC Work Plan (February 29, 2012)



Environment

Prepared for:
Granville Solvents Site Removal
Management Group, LLC

Prepared by:
AECOM
Cincinnati, OH
60218707.1
December 2011

Post-RAC Work Plan

Granville Solvents Site
Granville, Licking County, Ohio

USEPA ID: OHD004495412

February 29, 2012

Contents

1.0 Introduction.....	1
1.1 Background.....	1
1.2 Semi-annual Sampling Events	2
1.3 Scope of Work	3
2.0 Vertical Profile Groundwater Sampling.....	3
3.0 Pump Response Test.....	4
4.0 South Area Sampling.....	5
5.0 Attenuation Sampling/Testing.....	6
6.0 Testing For 1,4-Dioxane	6
7.0 Reporting.....	6

List of Figures

Figure 1: Site Map

Figure 2: Geologic Cross Section A-A'

Figure 3: Geologic Cross Section B-B'

List of Appendices

Appendix A Geoprobe® Screen Point 16 Groundwater Sampler Standard Operating Procedure

1.0 Introduction

This document contains a proposed scope of work to be performed at the Granville Solvents Site (Village of Granville, Licking County, Ohio) in response to the United States Environmental Protection Agency (EPA) Review Comments dated April 6, 2011 and a meeting with Region 5 on June 29 regarding the 2010 Draft Removal Action Completion (RAC) Report dated July 30, 2010. The RAC Report was submitted to the EPA in order to apply for a Notice of Completion (NOC) regarding removal actions conducted at the site between 1995 and 2005 as required by the Administrative Order on Consent (AOC) issued by the EPA on September 7, 1994. This document is considered to be a modification to the original work plan in accordance with Section XVII of the AOC and after implementation may allow for submittal of a modified RAC Report.

The EPA requested performance of the following tasks as outlined in Section 6 of the RAC Report EPA Review Comments:

- a. Perform vertical aquifer sampling from the top to the bottom of the aquifer at a location halfway between the MW-07 and MW-08 clusters.
- b. Collect groundwater levels on a 20-minute frequency in several monitoring wells and determine if trends in water levels can be attributed to the start or termination of pumping from the municipal wells, and which pumping wells it can be related to.
- c. Collect a (groundwater) sample from GSSEW-1.
- d. Continue annual (groundwater) monitoring for a minimum of two years (semi-annually through 2012), and until it is determined that monitoring is no longer necessary.

Tasks (c) and (d) will be conducted during the semi-annual groundwater sampling events in accordance with the post-shutdown monitoring plan as summarized in Section 1.2 of this work plan. The overall objective of this work plan is to define the proposed scope of work to address Tasks (a) and (b) and to also propose a scope of work to address other concerns at the Site. The other concerns consist of the discrepancy between groundwater flow direction and volatile organic compound (VOC) plume migration direction, potential presence of 1,4-dioxane and occurrence of natural attenuation processes. Tasks have been developed to evaluate the other concerns and consist of sampling and testing site media to evaluate groundwater quality south of the site, sampling and testing for 1,4-dioxane and sampling associated with potential biotic and/or abiotic natural attenuation processes occurring within subsurface media at the Site.

Included in this section of the work plan is a summary of the Site background, semi-annual sampling methods and proposed scope of work.

1.1 Background

From 1953 to 1986 various solvents were handled at the small, 1.5-acre, triangular-shaped parcel with the property boundary shown as the fenced area on Figure 1. The site is situated about 1,000 feet east of the Village of Granville's municipal well field (Granville Well-field), on the northern edge of what appears to be a typical Ohio buried-valley aquifer. The buried valley aquifer system typically consists of approximately 150 ft of channel fill on top of bedrock, with the channel fill consisting of sand and gravel. The bedrock consists of inter-bedded near-horizontal layers of sandstone, siltstone and shale with minor conglomerate units. Cross section lines are shown on Figure 1 with geologic cross-sections provided on Figures 2 and 3.

In 1991, the Ohio EPA removed all containerized solvents from the Site and in 1994 the Granville PRP Group (the Group) entered into an agreement with EPA to perform soil and groundwater remedial actions at the Site. In 1994, two groundwater extraction wells (GSSEW-01 and GSSEW-02) were installed to provide capture and containment of impacted groundwater. The system operated for about 10 years from 1995 to 2005 resulting in a total of about 900 million gallons extracted, treated and discharged to the near-by Raccoon Creek. In addition, between 2001 and 2005, source area soil and groundwater was also remediated via a soil vapor extraction (SVE) /air sparge system at the areas shown on Figures 1 to 3. A general chronology of site activities is provided below:

- 1990 to 1994 – Site discovery and installation of Ohio EPA monitoring wells;
- 1994 – AOC entered;
- 1995 – Work Plan developed and two extraction wells installed/operated;
- 1995 to 1996 – GSS monitoring wells installed;
- 1998 – Fate and transport modeling conducted;
- 1999 – EE/CA conducted to evaluate alternatives for further remediation;
- 2001 – SVE/sparge system selected and installed at source area;
- 2004 – Remedial post shut-down/post-monitoring plan submitted to the EPA;
- 2005 – Both the groundwater pump and treat and SVE/sparge remediation systems were discontinued and post-monitoring began which consisted of semi-annual sampling of select wells.
- 2010 – RAC report requesting an NOC for the AOC;
- 2011 – The EPA requested submittal of a modified work plan to (1) address the potential vertical migration of the plume, (2) determine groundwater flow direction from the Site.

The Granville Well-field (public water system) typically pumps about 500 to 700 gallons per minute (gpm) continuously by alternating use of supply wells PW-2, PW-3A and PW-4. To date, VOCs have not been detected in the supply wells PW-2 to PW-4. Supply well PW-2 is included in Ohio EPAs ambient groundwater monitoring program and is occasionally tested for VOCs with no detections to date. Groundwater within the property boundary exhibits levels of dissolved-phase PCE ranging from 0.81 to 130 ug/L, where detected, during the latest semi-annual groundwater monitoring event conducted in November 2011.

1.2 Semi-annual Sampling Events

The EPA also requested continuation of the semi-annual groundwater sampling events through calendar year 2012 as noted in Section 1.0 of this work plan. Semi-annual sampling events were conducted in May and November of 2011 and two semi-annual sampling events will be conducted in 2012. The semi-annual sampling events will be conducted in general accordance with the scope outlined in Section 3.1.2 of the USEPA-approved “Proposal to Suspend Groundwater and Soil Treatment Systems Operations and Commence Post-Shutdown Groundwater Monitoring at the Granville Solvents Site”, dated August 2004. The post shutdown monitoring plan requires testing of groundwater for VOCs at the following monitoring wells:

- MW-02D
- MW-04D
- MW-06
- MW-07D
- MW-08

- MW-P1
- GSSMW-15
- GSSEW-01

Sampling and testing at GSSMW-08 and GSSMW-09 will also be conducted. In addition, gauging of all 29 project area monitoring wells will be conducted to provide a potentiometric surface map of the project area during the sampling event. An annual report will be prepared containing information for each sampling event including a detailed description of methods used and summary of results. The report will contain a summary of purge data, detailed potentiometric surface map, summary table of groundwater results, VOC concentration maps and VOC concentration trend charts for appropriate monitoring wells.

1.3 Scope of Work

The proposed activities described in this work plan include the following:

- Vertical Groundwater Profiling;
- Pump Response Testing;
- South Area Sampling;
- Attenuation Sampling; and
- Testing for 1,4-dioxane.

Field work will be conducted in accordance with a site-specific Health and Safety Plan (HASP) which will cover site field sampling activities. All personnel involved with the fieldwork, including subcontractors, will be required to review the HASP prior to commencing the field activities and will comply with all health and safety requirements

A utility survey will be conducted prior to any vertical profiles and monitoring well installation to avoid existing subsurface structures. The survey will include:

- Public and private utility locating/marketing services
- Ground Penetrating Radar (Geophysical Survey Systems SIR 3000 (or equivalent))

Sample locations will be located at a proper distance (greater than 3 feet) from all identified utilities.

2.0 Vertical Profile Groundwater Sampling

In order to obtain information on VOC concentrations with depth between the site and the Granville Well-field, vertical profiling of groundwater quality will be conducted between MW-07 and MW-08 at the location shown on Figure 1 as VG-1. Vertical profiling will be conducted using direct-push drilling equipment equipped with the Geoprobe® Screen Point 16 (SP-16) groundwater sampler to selectively collect discrete groundwater samples for aquifer profiling. A description of the groundwater sampling device and standard operating procedure (SOP) is provided in Appendix A.

The direct push drill rig will have the capability to advance tooling to 120 feet bgs. This depth extends below the elevation of the deepest well screen of the Granville Well-field supply wells. Groundwater samples will be collected vertically using a 51.5 inch long stainless steel tooling assembly capable of exposing a maximum of 41-inches of screen to the formation. The sampling tool will be extended to the maximum depth and samples obtained from the bottom upwards at approximate 10-foot intervals to the top of the groundwater table about 20 to 25 ft below grade. The midpoint of the profiler screen will be placed near the midpoint of each 10-foot depth interval. Tubing utilized for sample collection will be placed at the midpoint of the SP-16 sample screen. The groundwater will be conveyed to the surface using a small-diameter bladder pump or peristaltic pump. Pumping at each vertical location will continue until the groundwater becomes clear or when the field parameters described below stabilize.

Field parameters utilized to monitor groundwater stability will consist of pH, temperature, conductivity, dissolved oxygen (DO) and oxidation-reduction potential (ORP). The groundwater samples will be packaged and delivered to Test America for analysis of VOCs using USEPA SW-846 Method 524.2. The laboratory will report only those VOCs previously detected at the Site. A total of approximately 10 groundwater samples are anticipated, in addition to quality assurance/quality control (QA/QC) samples. QA/QC samples will include field duplicates, equipment blanks, and MS/MSD samples at the frequency and in general accordance with procedures outlined in the Removal Action Groundwater Monitoring Program Plan (Revised July 25, 1995).

Each vertical profile location will be surveyed to the same datum and coordinate system as the other wells in the project area. The open probe hole will be filled with grout as the sampling equipment is withdrawn as described in the SOP.

3.0 Pump Response Test

A pump response test will be conducted to determine if trends in monitoring well water levels can be attributed to the start or termination of pumping wells from the Granville Well-field and which pumping wells closest and furthest from the Site have the most affect on the monitoring well water levels. This will be achieved by collecting pumping data and groundwater levels from both the pumping wells and selected monitoring wells as described below.

The drinking water supply for the Village of Granville is obtained from the Granville Well-field which is just west of the treatment plant at 445 Palmer Lane. Currently, three wells are in service and consist of pumping wells PW-2, PW-3A and PW-4 as shown on Figure 1. Any one of these three wells is capable of supplying the current daily demand for water of about 650,000 gallons and typically withdraws groundwater at a rate of about 500 to 700 gpm from a single well on a daily basis. The raw well water is pumped to an aerator, which releases trapped gases to the atmosphere and oxidizes iron dissolved in the water for removal by settling. The aerated water is mixed with a hydrated lime slurry, causing calcium and magnesium compounds to precipitate out of the water. After clarification, chlorine is added, pH is adjusted, sand bed filtering occurs and a fluoride compound is added prior to pumping to the distribution system.

Personnel from the Village of Granville Water Department have indicated that with at least several weeks notice, temporary adjusting of pumping well selection and rates can be conducted in order to accommodate the pump response testing. During pumping, drawdown is typically about 20 ft below the normal potentiometric surface and when the pump is turned off, this level typically rebounds to near the original potentiometric surface within minutes. Pumping rates are monitored continuously, while water levels in the pumping wells are typically not monitored, but can be surveyed manually using a standard water level meter. To maintain typical water supply levels, the longest time no wells can be pumping is about an hour.

To monitor the immediate and short-term changes in groundwater levels, pressure transducers will be placed in supply wells PW-2, PW-3A and PW-4 and monitoring wells, GSS-P3, MW-08, MW-02, and GSSMW-13. A down-hole pressure transducer utilizing an internal data logger will record continuous water level measurements from on-board sensors capable of reading water levels to an accuracy of 0.01 feet. The temporary pressure transducers will be installed and programmed the week before pump testing.

A one-week long pump response test is proposed by temporarily pumping from the supply wells furthest and closest to the Granville Solvents Site (PW-4 and PW-2) as outlined in the following schedule:

- Monday: Shut down all pumps for 1 hour. Activate PW-4 only ;
- Wednesday: Shut down all pumps for 1 hour. Activate PW-2 only; and
- Friday afternoon: Remove all temporary pressure transducers and down-load data.

The collected data on pumping rates and water levels will be plotted with time on a single graph to show which wells may be affected by the pumping activity.

4.0 South Area Sampling

Sampling conducted in 2007 indicated that no VOCs were detected in surface water samples obtained from Raccoon Creek. Due to the absence of groundwater data south of monitoring well MW-2, it is possible that VOCs in groundwater may be migrating south toward Raccoon Creek as would be indicated by the potentiometric surface obtained from past monitoring activities. In order to investigate this possibility, a series of discrete groundwater samples will be collected along Raccoon Creek (shown as DG-1 through DG-4 on Figure 1). One discrete groundwater sample will be obtained at each location from the upper 10 ft of the water column using sampling techniques described in Section 2.0 of this work plan.

5.0 Attenuation Sampling/Testing

Degradation of VOCs may be occurring via reductive dechlorination based on the presence of PCE daughter products. In addition, dispersion, volatilization and adsorption may also be contributing to a slow, but steady reduction in dissolved-phase mass. The VOC rebound observed in some of the monitoring wells since the extraction well shut-down occurred in 2005 appears to be limited to monitoring wells screened in the silty sand layer between the upper clay layer and sand and gravel aquifer.

During implementation of the Post-RAC Work Plan, a preliminary natural attenuation evaluation will be conducted to assess the efficacy of biotic and abiotic processes which may be occurring in the silty sand layer and buried valley aquifer media. Regarding biotic processes, testing for total organic carbon (TOC) and dissolved methane, ethane and ethene (MEE), nitrate, sulfate and field-reduced iron is proposed. TOC tests will be conducted on several soil samples obtained from the silty sand layer at the location shown as NA-1 on Figure 1. MEE tests will be conducted on groundwater samples from impacted and non-impacted wells including MW-08, MW-05 and GSSMW-15, MW-02D, MW-P1 and MW-04D. Field parameters (pH, conductivity, temperature, oxidation-reduction potential and dissolved oxygen) will be collected as part of the sampling protocol and are useful in interpreting this data. Regarding abiotic processes, testing for total iron and manganese and extractable iron and manganese will be conducted on saturated soil samples obtained from the silty sand layer at sample location NA-1. Extractable analysis will be performed using the weak acid and strong acid methods to assess availability of iron and manganese as electron acceptors for reductive dechlorination of the low levels of dissolved-phase VOCs.

6.0 Testing For 1,4-Dioxane

Due to the historic presence of trichloroethane (TCA), monitoring well MW-6 will be sampled for 1,4-dioxane using USEPA SW-846 Method 8260B using selected ion monitoring (SIM) mode. This compound was mainly used historically as a stabilizer for TCA. The groundwater sample will be collected from MW-06 using purging methods outlined in the post shutdown monitoring plan.

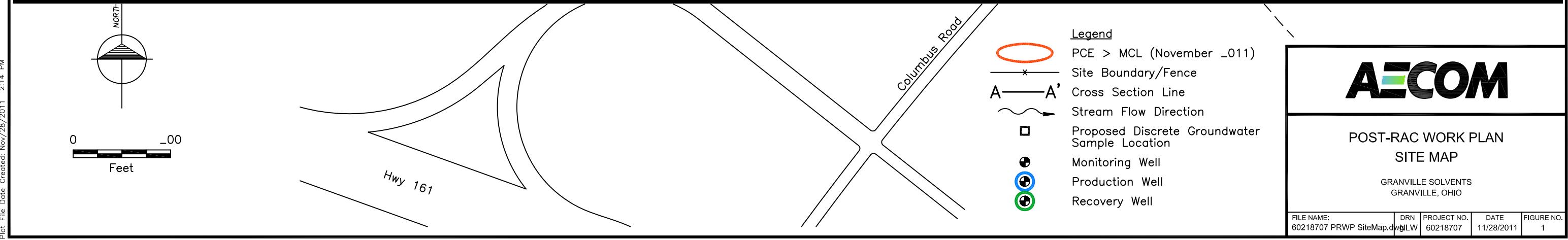
7.0 Reporting

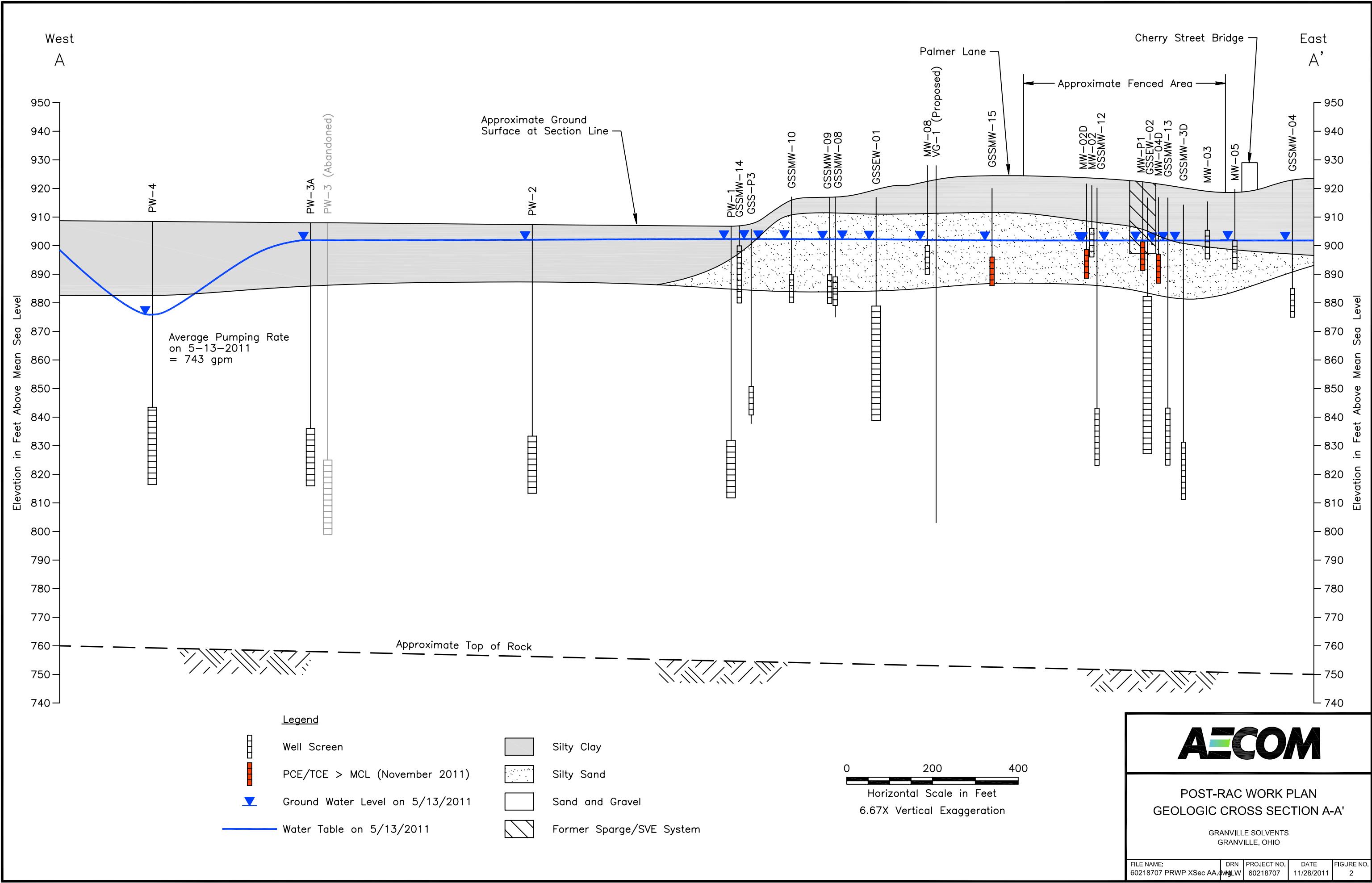
A Post-RAC Report will be prepared containing all results of the items outlined in the scope of this work plan. In addition, the 2011 Annual Groundwater Monitoring Report containing data collected in May and November 2011 will be prepared and submitted. Information obtained from implementation

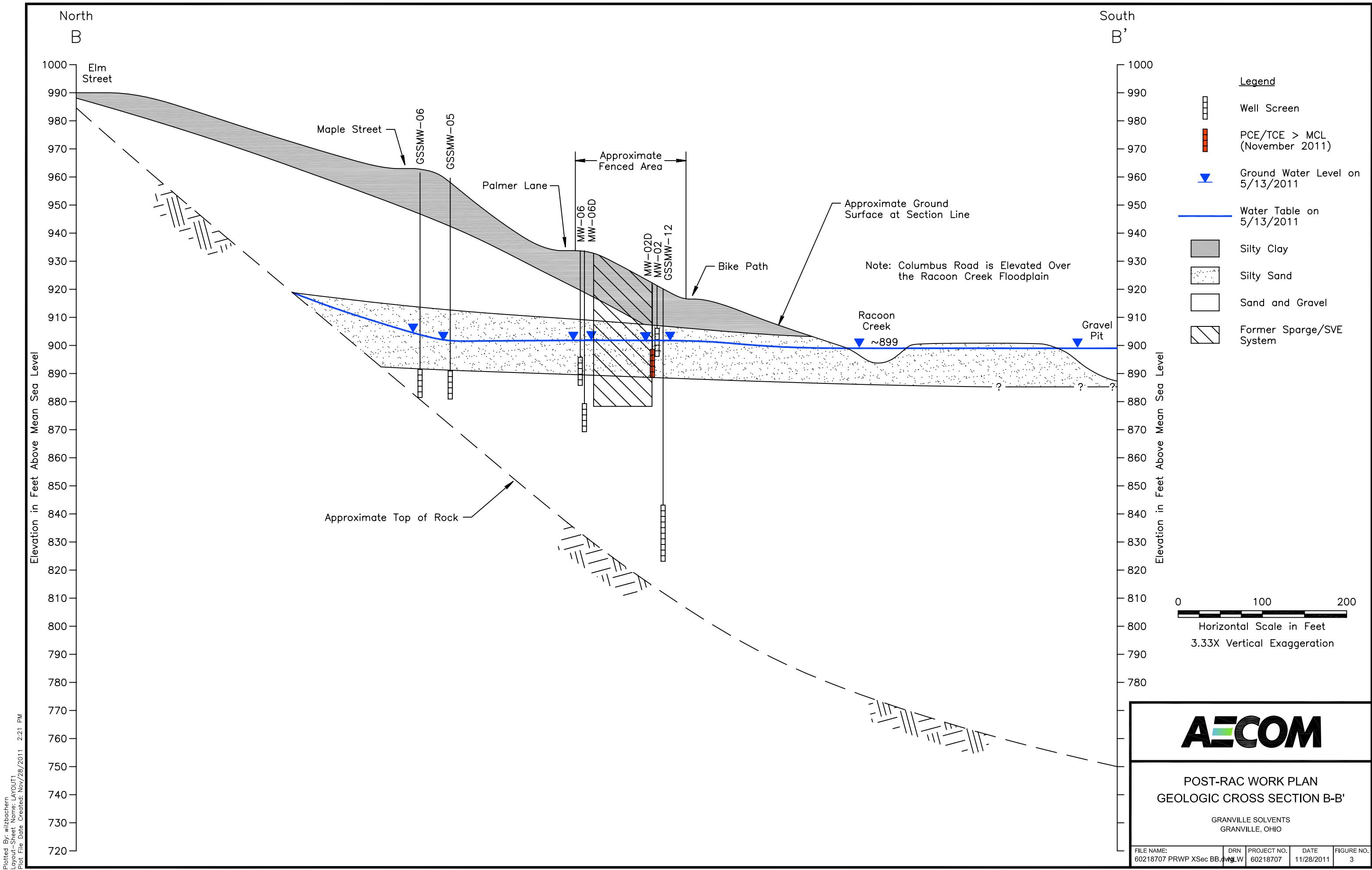
of this work plan will be used to evaluate potential alternatives for developing closure criteria using the existing monitoring well system.

Figures

Nonresponsive







Appendix A

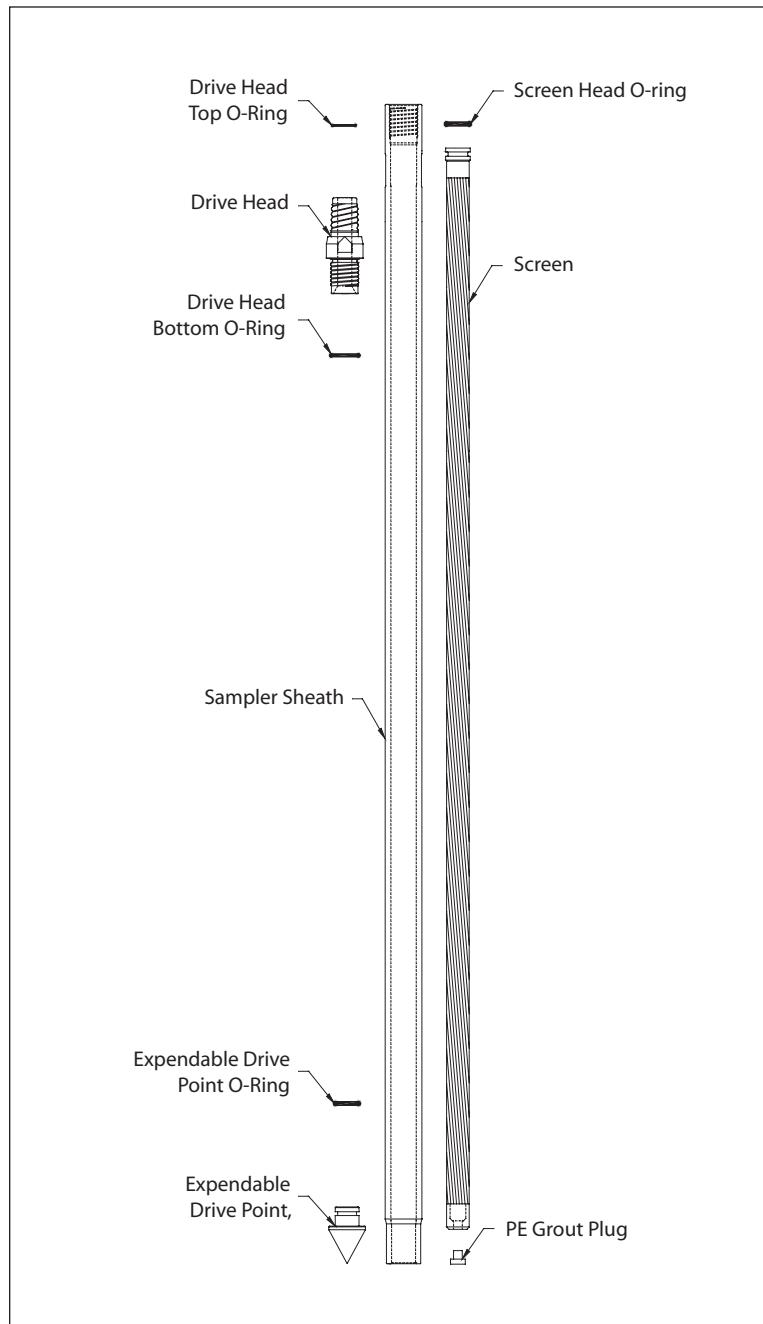
Geoprobe® Screen Point 16 Groundwater Sampler Standard Operating Procedure

GEOPROBE® SCREEN POINT 16 GROUNDWATER SAMPLER

STANDARD OPERATING PROCEDURE

Technical Bulletin No. MK3142

PREPARED: November, 2006



GEOPROBE® SCREEN POINT 16 GROUNDWATER SAMPLER PARTS



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**Screen Point 16 Groundwater Sampler is manufactured
under U.S. Patent 5,612,498**

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1.0 OBJECTIVE

The objective of this procedure is to drive a sealed stainless steel or PVC screen to depth, deploy the screen, obtain a representative water sample from the screen interval, and grout the probe hole during abandonment. The Screen Point 16 Groundwater Sampler enables the operator to conduct abandonment grouting that meets American Society for Testing and Materials (ASTM) Method D 5299 requirements for decommissioning wells and borings for environmental activities (ASTM 1993).

2.0 BACKGROUND

2.1 Definitions

Geoprobe®: A brand name of high quality, hydraulically powered machines that utilize both static force and percussion to advance sampling and logging tools into the subsurface. The Geoprobe® brand name refers to both machines and tools manufactured by Geoprobe Systems®, Salina, Kansas. Geoprobe® tools are used to perform soil core and soil gas sampling, groundwater sampling and monitoring, soil conductivity and contaminant logging, grouting, and materials injection.

Screen Point 16 (SP16) Groundwater Sampler: A direct push device consisting of a PVC or stainless steel screen that is driven to depth within a sealed, steel sheath and then deployed for the collection of representative groundwater samples. The assembled SP16 Sampler is approximately 51.5 inches (1308 mm) long with an OD of 1.625 inches (41 mm). Upon deployment, up to 41 inches (1041 mm) of screen can be exposed to the formation. The Screen Point 16 Groundwater Sampler is designed for use with 1.5-inch probe rods and machines equipped with the more powerful GH60 Hydraulic Hammer. Operators with GH40 Series hammers may choose to use this sampler in soils where driving is difficult.

Rod Grip Pull System: An attachment mounted on the hydraulic hammer of a direct push machine which makes it possible to retract the tool string with extension rods or flexible tubing protruding from the top of the probe rods. The Rod Grip Pull System includes a pull block with rod grip jaws that are bolted directly to the machine. A removable handle assembly straddles the tool string while hooking onto the pull block to effectively grip the probe rods as the hammer is raised. A separate handle assembly is required for each probe rod diameter.

2.2 Discussion

In this procedure, the assembled Screen Point 16 Groundwater Sampler (Fig. 2.1A) is threaded onto the leading end of a Geoprobe® probe rod and advanced into the subsurface with a Geoprobe® direct push machine. Additional probe rods are added incrementally and advanced until the desired sampling interval is reached. While the sampler is advanced to depth, O-ring seals at each rod joint, the drive head, and the expendable drive point provide a watertight system. This system eliminates the threat of formation fluids entering the screen before deployment and assures sample integrity.

Once at the desired sampling interval, extension rods are sent downhole until the leading rod contacts the bottom of the sampler screen. The tool string is then retracted approximately 44 inches (1118 mm) while the screen is held in place with the extension rods (Fig. 2.1B). As the tool string is retracted, the expendable point is released from the sampler sheath. The tool string and sheath may be retracted the full length of the screen or as little as a few inches if a small sampling interval is desired.

There are three types of screens that can be used in the Screen Point 16 Groundwater Sampler. Two of these, a stainless steel screen with a standard slot size of 0.004 inches (0.10 mm) and a PVC screen with a standard slot size of 0.010 inches (0.25 mm), are recovered with the tool string after sampling. The third screen is also manufactured from PVC with a standard slot size of 0.010 inches (0.25 mm), but is designed to be left downhole when sampling is complete. This disposable screen has an exposed screen length of approximately 43 inches (1092 mm). The two screens that are recovered with the sampler both have an exposed screen length of approximately 41 inches (1041 mm).

(continued on following page)

An O-ring on the head of the stainless steel screens maintains a seal at the top of the screen. As a result, any liquid entering the sampler during screen deployment must first pass through the screen. PVC screens do not require an O-ring because the tolerance between the screen head and sampler sheath is near that of the screen slot size.

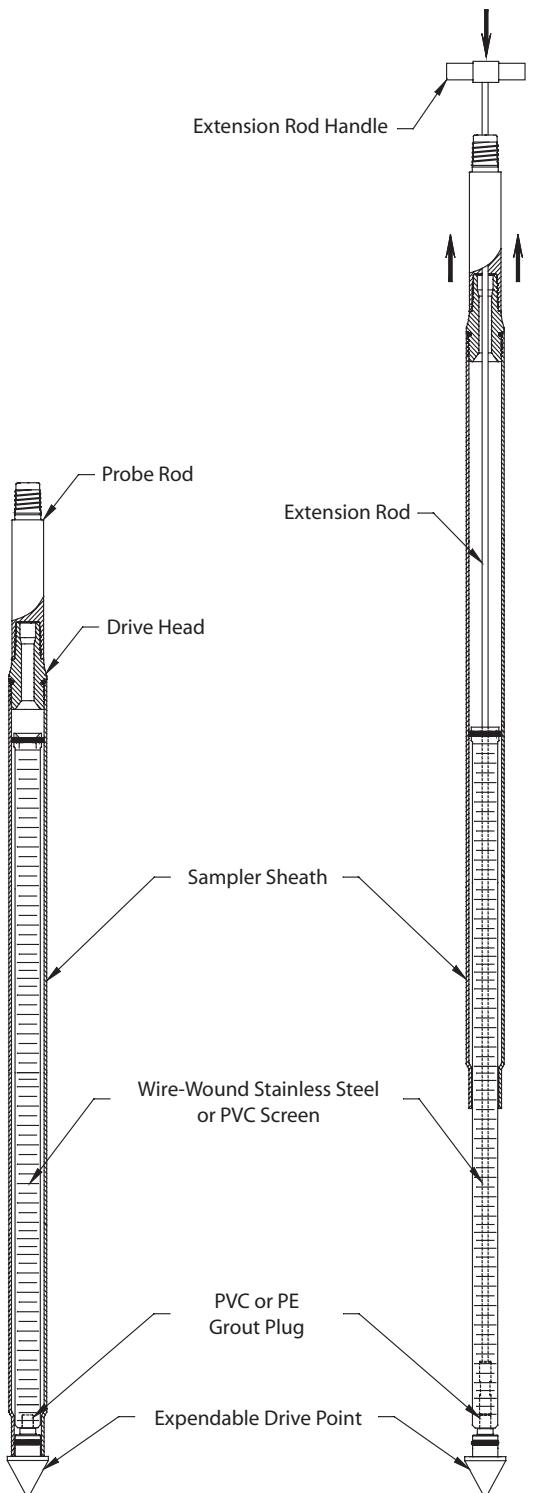
The screens are constructed such that flexible tubing, a mini-bailer, or a small-diameter bladder pump can be inserted into the screen cavity. This makes direct sampling possible from anywhere within the saturated zone. A removable plug in the lower end of the screens allows the user to grout as the sampler is extracted for further use.

Groundwater samples can be obtained in a number of ways. A common method utilizes polyethylene (TB25L) or Teflon® (TB25T) tubing and a Check Valve Assembly (GW4210). The check valve (with check ball) is attached to one end of the tubing and inserted down the casing until it is immersed in groundwater. Water is pumped through the tubing and to the ground surface by oscillating the tubing up and down.

An alternative means of collecting groundwater samples is to attach a peristaltic or vacuum pump to the tubing. This method is limited in that water can be pumped to the surface from a maximum depth of approximately 26 feet (8 m). Another technique for groundwater sampling is to use a stainless steel Mini-Bailer Assembly (GW41). The mini-bailer is lowered down the inside of the casing below the water level where it fills with water and is then retrieved from the casing.

The latest option for collecting groundwater from the SP16 sampler is to utilize a Geoprobe® MB470 Series Mechanical Bladder Pump (MBP)*. The MBP may be used to meet requirements of the low-flow sampling protocol (Puls and Barcelona 1996, ASTM 2003). Through participation in a U.S. EPA Environmental Technology Verification study, it was confirmed that the MB470 can provide representative samples (EPA 2003).

**The Mechanical Bladder Pump is manufactured under U.S. Patent No. 6,877,965 issued April 12, 2005.*



A. Fully Assembled

B. Screen Partially Deployed

FIGURE 2.1
Screen Point 16 Groundwater Sampler

3.0 TOOLS AND EQUIPMENT

The following tools and equipment can be used to successfully recover representative groundwater samples with the Geoprobe® Screen Point 16 Groundwater Sampler. Refer to Figures 3.1 and 3.2 for identification of the specified parts. Tools are listed below for the most common SP16 / 1.5-inch probe rod configurations. Additional parts for optional rod sizes and accessories are listed in Appendix A.

SP16 Sampler Parts	Part Number
SP16 Sampler Sheath.....	15187
SP16 Drive Head, 0.5-inch bore, 1.5-inch rods*	18307
SP16 O-ring Service Kit, 1.5-inch rods (<i>includes 4 each of the O-ring packets below</i>)	15844
O-rings for Top of SP16 Drive Head, 1.5-inch rods only (Pkt. of 25)	15389
O-rings for Bottom of SP16 Drive Head (Pkt. of 25)	13196
O-rings for GW1520 Screen Head (Pkt. of 25).....	GW1520R
O-rings for SP16 Expendable Drive Point (Pkt. of 25)	GW1555R
Screen, Wire-Wound Stainless Steel, 4-Slot*	GW1520
Grout Plugs, PE (Pkg. of 25)	GW1552K
Expendable Drive Points, steel, 1.625-inch OD (Pkg. of 25)*	GW1555K
Screen Point 16 Groundwater Sampler Kit, 1.5-inch Probe Rods (<i>includes 1 each of:</i> 15187, 18307, 15844, GW1520, GW1535, GW1540, GW1555K, and GW1552K).....	15770
Probe Rods and Probe Rod Accessories	Part Number
Drive Cap, 1.5-inch probe rods, threadless, (for GH60 Hammer).....	12787
Pull Cap, 1.5-inch probe rods	15090
Probe Rod, 1.5-inch x 60-inch*	11121
Extension Rods and Extension Rod Accessories	Part Number
Screen Push Adapter.....	GW1535
Grout Plug Push Adapter.....	GW1540
Extension Rod, 60-inch*	10073
Extension Rod Coupler.....	AT68
Extension Rod Handle.....	AT69
Extension Rod Jig.....	AT690
Extension Rod Quick Link Coupler, pin.....	AT695
Extension Rod Quick Link Coupler, box.....	AT696
Grout Accessories	Part Number
Grout Nozzle, for 0.375-inch OD tubing.....	GW1545
High-Pressure Nylon Tubing, 0.375-inch OD / 0.25-inch ID, 100-ft. (30 m).....	11633
Grout Machine, self-contained*	GS1000
Grout System Accessories Package, 1.5-inch rods	GS1015
Groundwater Purging and Sampling Accessories	Part Number
Polyethylene Tubing, 0.375-inch OD, 500 ft.*	TB25L
Check Valve Assembly, 0.375-inch OD Tubing*	GW4210
Water Level Meter, 0.438-inch OD Probe, 100 ft. cable*	GW2000
Mechanical Bladder Pump**	MB470
Mini Bailer Assembly, stainless steel.....	GW41
Additional Tools	Part Number
Adjustable Wrench, 6.0-inch	FA200
Adjustable Wrench, 10.0-inch	FA201
Pipe Wrenches	NA

* See Appendix A for additional tooling options.

** Refer to the Standard Operating Procedure (SOP) for the Mechanical Bladder Pump (Technical Bulletin No. MK3013) for additional tooling needs.

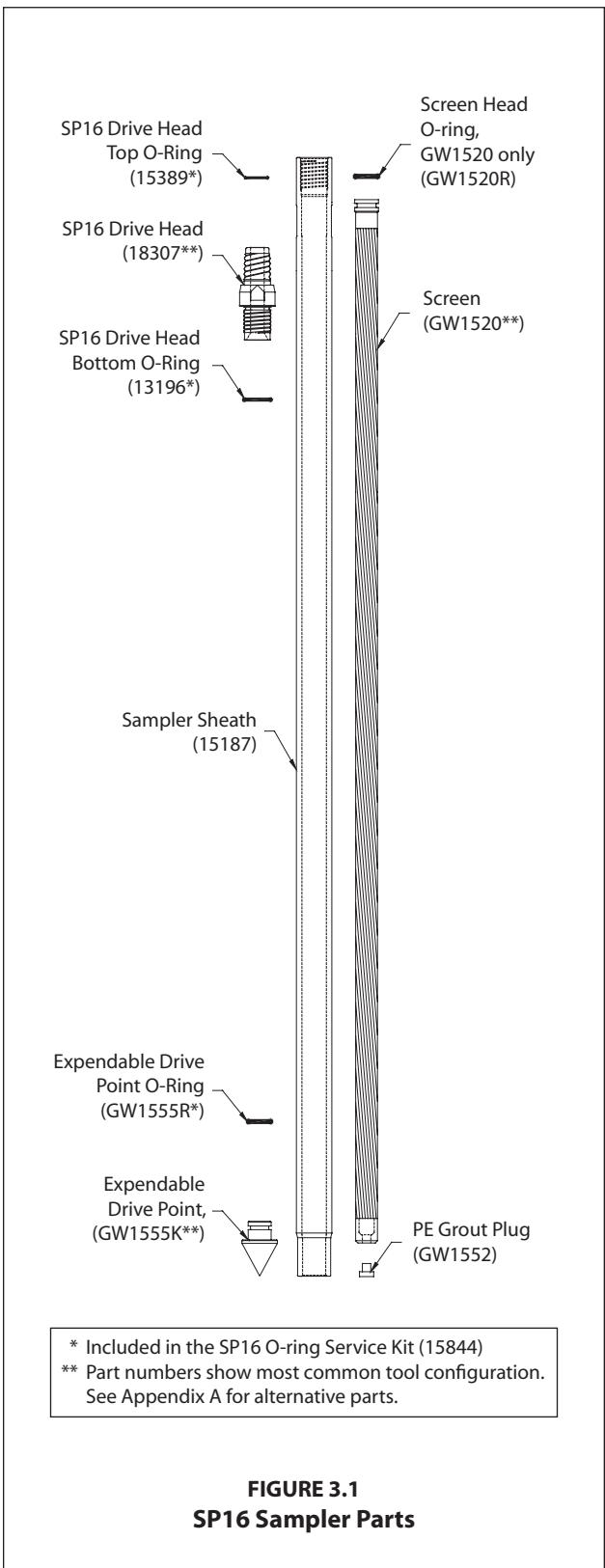


FIGURE 3.1
SP16 Sampler Parts

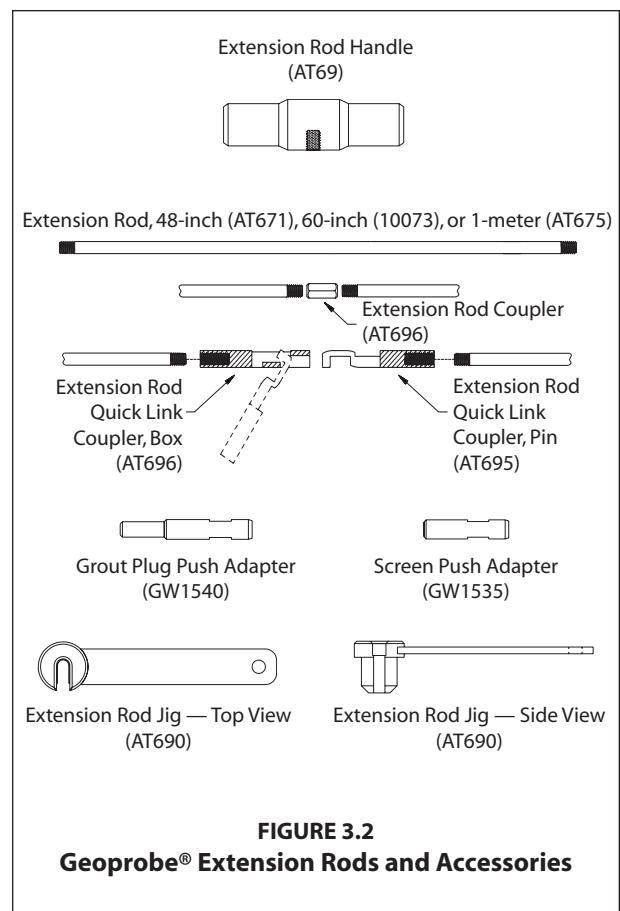


FIGURE 3.2
Geoprobe® Extension Rods and Accessories

4.0 OPERATION

4.1 Basic Operation

The SP16 sampler utilize a stainless steel or PVC screen which is encased in an alloy steel sampler sheath. An expendable drive point is placed in the lower end of the sheath while a drive head is attached to the top. O-rings on the drive head and expendable point provide a watertight sheath which keeps contaminants out of the system as the sampler is driven to depth.

Once the sampling interval is reached, extension rods equipped with a screen push adapter are inserted down the ID of the probe rods. The tool string is then retracted up to 44 inches (1118 mm) while the screen is held in place with the extension rods. The system is now ready for groundwater sampling. When sampling is complete, a removable plug in the bottom of the screen allows for grouting below the sampler as the tool string is retrieved.

4.2 Sampler Options

The Screen Point 15 and Screen Point 16 Groundwater Samplers are nearly identical. Subtle differences in the design of the SP16 sampler make it more durable than the earlier SP15 system. Operators of GH60-equipped machines should always utilize SP16 tooling. Operators of machines equipped with GH40 Series hammers may also choose SP16 tooling when sampling in difficult probing conditions.

A 1.75-inch OD Expendable Drive Point (17066K) and Disposable PVC Screen (16089) provide two useful options for the SP16 sampler. The 1.75-inch drive point may be used when soil conditions make it difficult to remove the sampler after driving to depth. The disposable PVC screen may be left downhole after sampling (when regulations permit) to eliminate the time required for screen decontamination.

4.3 Decontamination

In order to collect representative groundwater samples, all sampler parts must be thoroughly cleaned before and after each use. Scrub all metal parts using a stiff brush and a nonphosphate soap solution. Steam cleaning may be substituted for hand-washing if available. Rinse with distilled water and allow to air-dry before assembly.

4.4 SP16 Sampler Assembly (Figure 4.1)

Part numbers are listed for a standard SP16 sampler using 1.5-inch probe rods. Refer to Page 6 for screen and drive head alternatives.

1. Place an O-ring on a steel expendable drive point (GW1555K). Firmly seat the expendable point in the necked end of a sampler sheath (15187).
2. Install a PE Grout Plug (GW1552) in the bottom end of a Wire-wound Stainless Steel Screen (GW1520). Place a GW1520R O-ring in the groove on the top end of the screen.
3. Slide the screen inside of the sampler sheath with the grout plug toward the bottom of the sampler. Ensure that the expendable point was not displaced by the screen.
4. Install a bottom O-ring (13196) on a Drive Head (18307 or 15188). Thread the drive head into the sampler sheath using an adjustable wrench if necessary to ensure complete engagement of the threads. Attach a Drive Cap (12787 or 15590) to the top of the drive head.

NOTE: The 18307 drive head should be used whenever possible as the smaller 0.5-inch ID provides a greater material cross-section for increased durability.

Sampler assembly is complete.

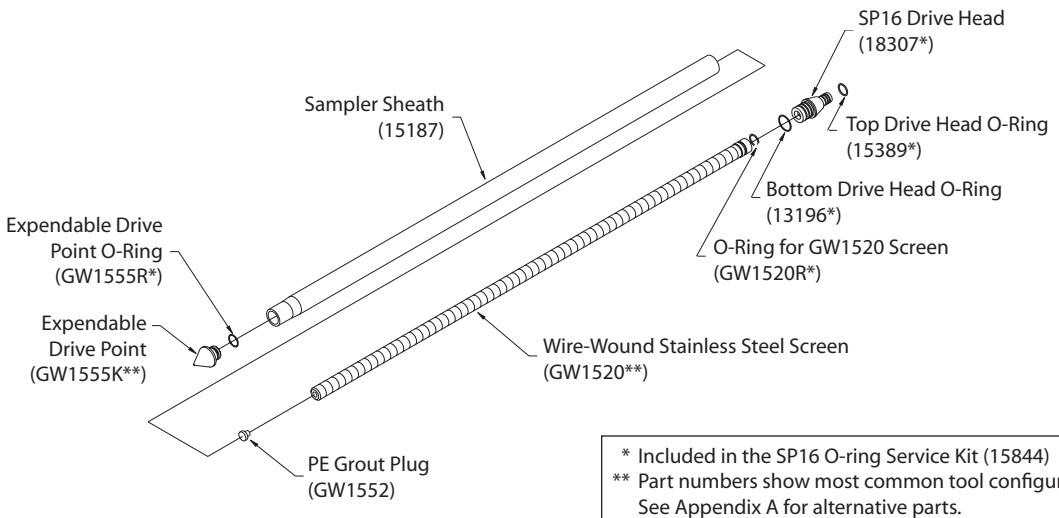


FIGURE 4.1
Screen Point 16 Groundwater Sampler Assembly

4.5 Advancing the SP16 Sampler

To provide adequate room for screen deployment with the Rod Grip Pull System, the probe derrick should be extended a little over halfway out of the carrier vehicle when positioning for operation.

1. Begin by placing the assembled sampler (Fig. 2.1.A) in the driving position beneath the hydraulic hammer of the direct push machine as shown in Figure 4.2.
2. Advance the sampler with the throttle control at slow speed for the first few feet to ensure that the sampler is aligned properly. Switch to fast speed for the remainder of the probe stroke.
3. Completely raise the hammer assembly. Remove the drive cap and place an O-ring in the top groove of the drive head. Distilled water may be used to lubricate the O-ring if needed.

Add a probe rod (length to be determined by operator) and reattach the drive cap to the rod string. Drive the sampler the entire length of the new rod with the throttle control at fast speed.

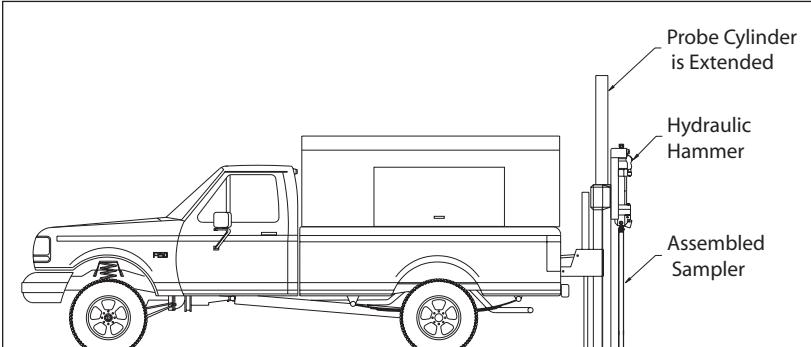


FIGURE 4.2
Screen Point 16 Groundwater Sampler in Driving Position

4. Repeat Step 3 until the desired sampling interval is reached. Approximately 12 inches (305 mm) of the last probe rod must extend above the ground surface to allow attachment of the puller assembly. A 12-inch (305 mm) rod may be added if the tool string is over-driven.
5. Remove the drive cap and retract the probe derrick away from the tool string.

4.6 Screen Deployment

1. Thread a screen push adapter (GW1535) on an extension rod of suitable length (AT671, 10073, or AT675). Attach a threaded coupler (AT68) to the other end of the extension rod. Lower the extension rod inside of the probe rod taking care not to drop it down the tool string. An extension rod jig (AT690) may be used to hold the rods.
2. Add extension rods until the adapter contacts the bottom of the screen. To speed up this step, it is recommended that Extension Rod Quick Links (AT695 and AT696) are used at every other rod joint.
3. Ensure that at least 48 inches (1219 mm) of extension rod protrudes from the probe rod. Thread an extension rod handle (AT69) on the top extension rod.
4. Maneuver the probe assembly into position for pulling.
5. Raise (pull) the tool string while physically holding the screen in place with the extension rods (Fig. 4.3.B). A slight knock with the extension rod string will help to dislodge the expendable point and start the screen moving inside the sheath.

Raise the hammer and tool string about 44 inches (1118 cm) if using a GW1520 or GW1530 screen. At this point the screen head will contact the necked portion of the sampler sheath (Fig. 4.3.C.) and the extension rods will rise with the probe rods. Use care when deploying a PVC screen so as not to break the screen when it contacts the bottom of the sampler sheath.

The Disposable Screen (16089) will extend completely out of the sheath if the tool string is raised more than 45 inches (1143 mm). Measure and mark this distance on the top extension rod to avoid losing the screen during deployment.

6. Remove the rod grip handle, lower the hammer assembly, and retract the probe derrick. Remove the top extension rod (with handle) and top probe rod. Finally, extract all extension rods.
7. Groundwater samples can now be collected with a mini-bailer, peristaltic or vacuum pump, tubing bottom check valve assembly, bladder pump, or other acceptable small diameter sampling device.

When inserting tubing or a bladder pump down the rod string, ensure that it enters the screen interval. The leading end of the tubing or bladder pump will sometimes catch at the screen head giving the illusion that the bottom of the screen has been reached. An up-and-down motion combined with rotation helps move the tubing or bladder pump past the lip and into the screen.

4.7 Abandonment Grouting for GW1520 and GW1530 Screens

The SP16 Sampler can meet ASTM D 5299 requirements for abandoning environmental wells or borings when grouting is conducted properly. A removable grout plug makes it possible to deploy tubing through the bottom of GW1520 and GW1530 screens. A GS500 or GS1000 Grout Machine is then used to pump grout into the open probe hole as the sampler is withdrawn. The following procedure is presented as an example only and should be modified to satisfy local abandonment grouting regulations.

1. Maneuver the probe assembly into position for pulling. Attach the rod grip puller to the top probe rod. Raise the tool string approximately 4 to 6 inches (102 to 152 cm) to allow removal of the grout plug.
2. Thread the Grout Plug Push Adapter (GW1540) onto an extension rod. Insert the adapter and extension rod inside the probe rod string. Add extension rods until the adapter contacts the grout plug at the bottom of the screen. Attach the handle to the top extension rod. When the extension rods are slightly raised and lowered, a relatively soft rebound should be felt as the adapter contacts the grout plug. This is especially true when using a PVC screen.

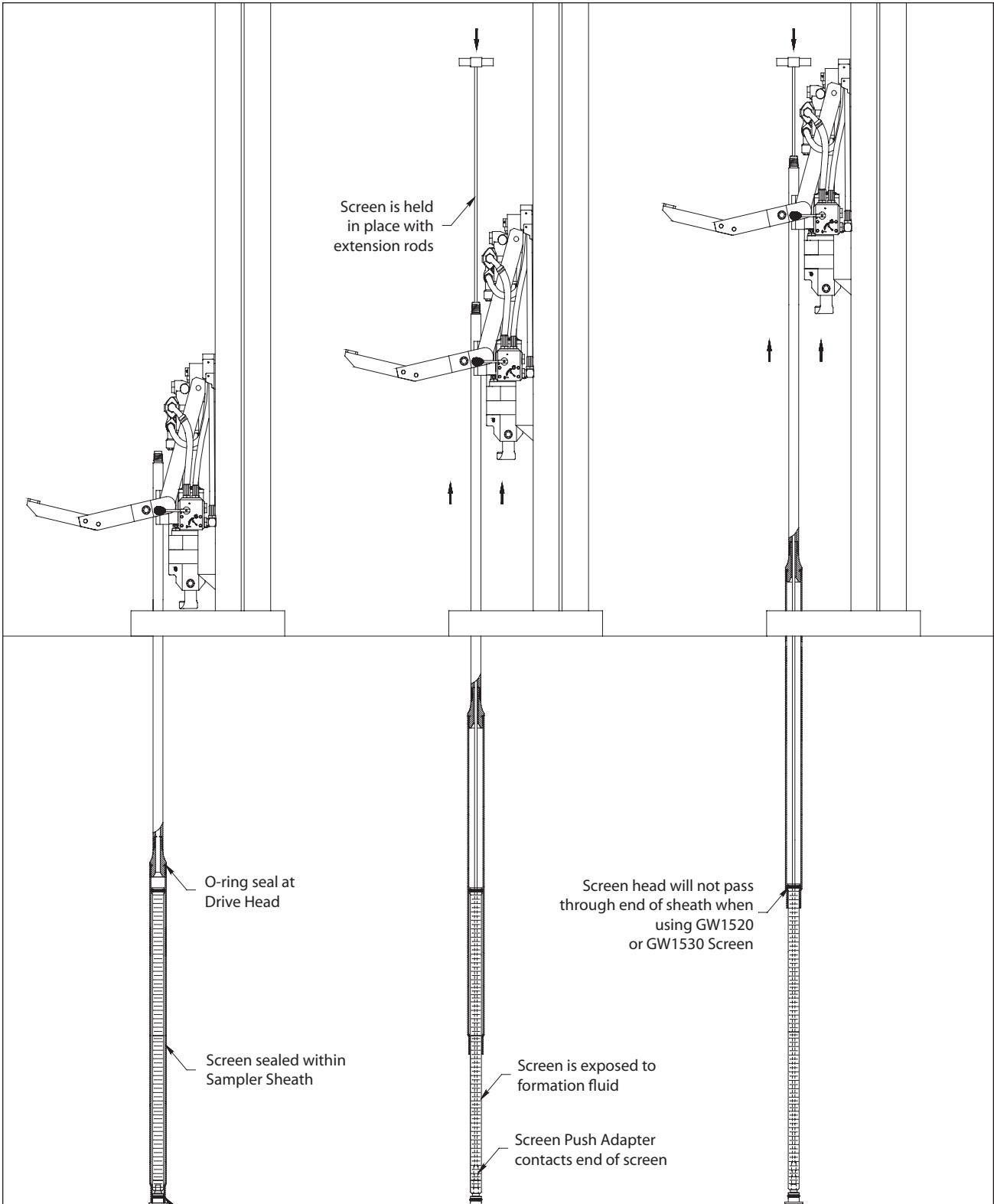
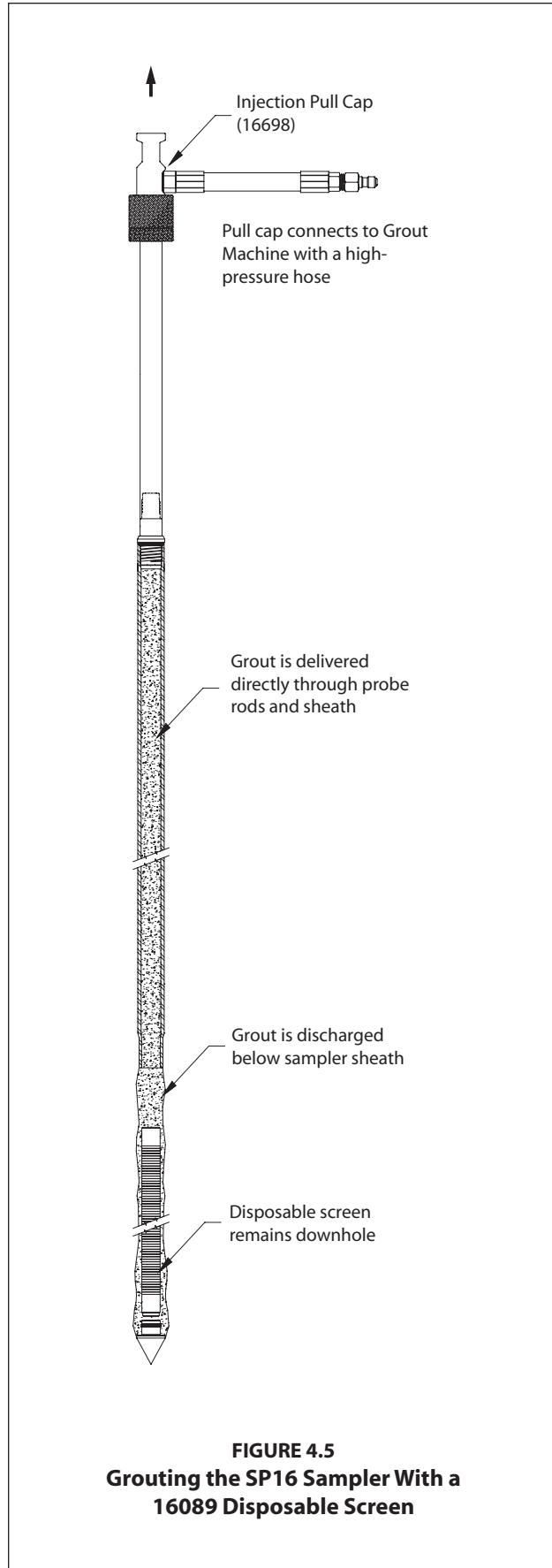
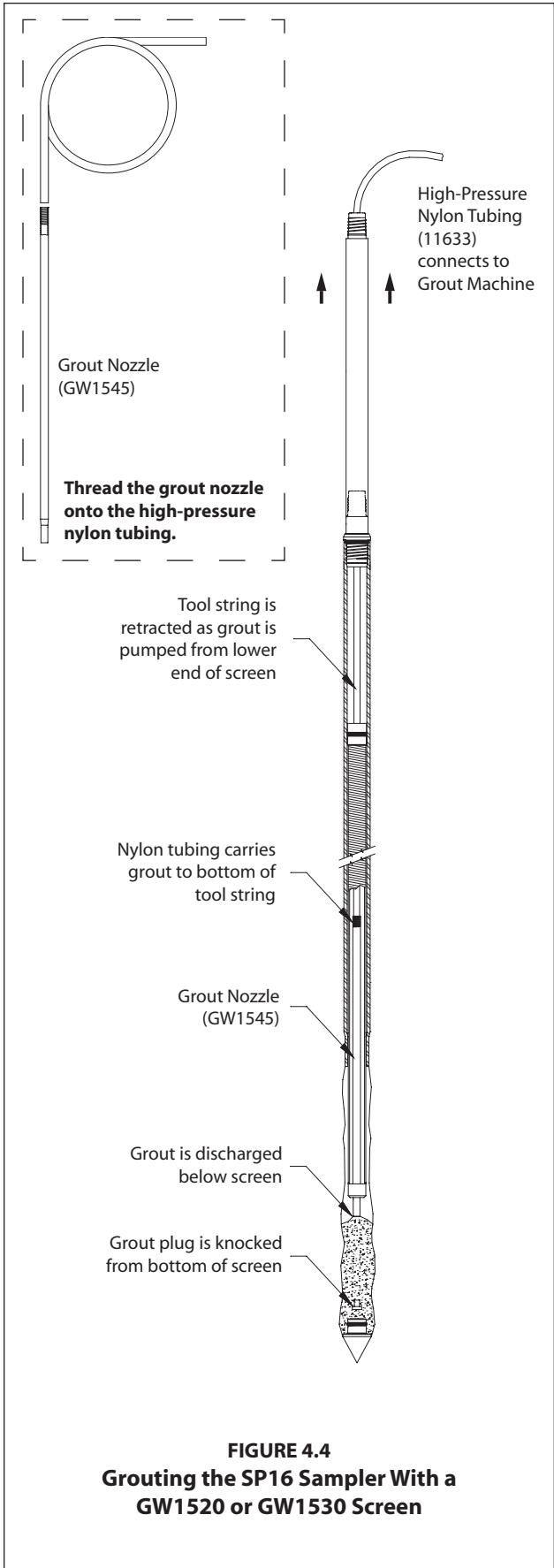


FIGURE 4.3
Screen Deployment for SP16 Sampler



3. Place a mark on the extension rod even with the top of the probe rod. Apply downward pressure on the extension rods and push the grout plug out of the screen. The mark placed on the extension rod should now be below the top of the probe rod. Remove all extension rods.

Note: When working with a stainless steel screen, it may be necessary to raise and quickly lower the extension rods to jar the grout plug free. When the plug is successfully removed, a metal-on-metal sensation may be noted as the extension rods are gently "bounced" within the probe rods.

4. A Grout Nozzle (GW1545) is now connected to High-Pressure Nylon Tubing (11633) and inserted down through the probe rods to the bottom of the screen (Fig. 4.4). It may be necessary to pump a small amount of clean water through the tubing during deployment to jet out sediments that settled in the bottom of the screen. Resistance will sometimes be felt as the grout nozzle passes through the drive head. Rotate the tubing while moving it up-and-down to ensure that the nozzle has reached the bottom of the screen and is not hung up on the drive head.

Note: All probe rods remain strung on the tubing as the tool string is pulled. Provide extra tubing length to allow sufficient room to lay the rods on the ground as they are removed. An additional 20 feet is generally enough.

5. Operate the grout pump while pulling the first rod with the rod grip pull system. Coordinate pumping and pulling rates so that grout fills the void left by the sampler. After pulling the first rod, release the rod grip handle, fully lower the hammer, and regrip the tool string. Unthread the top probe and slide it over the tubing placing it on the ground near the end of the tubing.
6. Repeat Step 5 until the sampler is retrieved. Do not bend or kink the tubing when pulling and laying out the probe rods. Sharp bends create weak spots in the tubing which may burst when pumping grout. Remember to operate the grout pump only when pulling the rod string. The probe hole is thus filled with grout from the bottom up as the rods are extracted.
7. Promptly clean all probe rods and sampler parts before the grout sets up and clogs the equipment.

4.8 Abandonment Grouting for the 16089 Disposable Screen

ASTM D 5299 requirements can also be met for the SP16 samplers when using the 16089 disposable screen. Because the screen remains downhole after sampling, the operator may choose either to deliver grout to the bottom of the tool string with nylon tubing or pump grout directly through the probe rods using an Injection Pull Cap (16698). A GS500 or GS1000 Grout Machine is needed to pump grout into the open probe hole as the sampler is withdrawn. The following procedure is presented as an example only and should be modified to satisfy local abandonment grouting regulations.

1. Maneuver the probe assembly into position for pulling with the rod grip puller.
2. Thread the screen push adapter onto an extension rod. Insert the adapter and extension rod inside the probe rod string. Add extension rods until the adapter contacts the bottom of the screen. Attach the handle to the top extension rod.
3. The disposable screen must be extended at least 46 inches (1168 mm) to clear the bottom of the sampler sheath. Considering the length of screen deployed in Section 4.7, determine the remaining distance required to fully extend the screen from the sheath. Mark this distance on the top extension rod.
4. Pull the tool string up to the mark on the top extension rod while holding the disposable screen in place.

The screen is now fully deployed and the sampler is ready for abandonment grouting. Apply grout to the bottom of the tool string during retrieval using either flexible tubing (as described in Section 4.7) or an injection pull cap (Fig. 4.5). This section continues with a description of grouting with a pull cap.

5. Remove the rod grip handle and maneuver the probe assembly directly over the tool string. Thread an Injection Pull Cap (16698) onto the top probe rod and close the hammer pull latch over the top of the pull cap.
6. Connect the pull cap to a Geoprobe® grout machine using a high-pressure grout hose.
7. Operate the pump to fill the entire tool string with grout. When a sufficient volume has been pumped to fill the tool string, begin pulling the rods and sampler while continuing to operate the grout pump. Considering the known pump volume and sampler cross-section, time tooling withdrawal to slightly "overpump" grout into the subsurface. This will ensure that all voids are filled during sampler retrieval.

The grouting process can lubricate the probe hole sufficiently to cause the tool string to slide back downhole when disconnected from the pull cap. Prevent this by withdrawing the tool string with the rod grip puller while maintaining a connection to the grout machine with the pull cap.

4.9 Retrieving the Screen Point 16 Sampler

If grouting is not required, the Screen Point 16 Sampler can be retrieved by pulling the probe rods as with most other Geoprobe® applications. The Rod Grip Pull System should be used for this process as it allows the operator to remove rods without completely releasing the tool string. This avoids having the probe rods fall back downhole when released during the pulling procedure. A standard Pull Cap (15164) may still be used if preferred. Refer to the Owner's Manual for your Geoprobe® direct push machine for specific instructions on pulling the tool string.

5.0 REFERENCES

American Society of Testing and Materials (ASTM), 2003. D6771-02 Standard Practice for Low-Flow Purging and Sampling for Wells and Devices Used for Ground-Water Quality Investigations. ASTM, West Conshocken, PA. (www.astm.org)

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Puls, Robert W., and Michael J. Barcelona, 1996. Ground Water Issue: Low-Flow (Minimal Drawdown) Ground Water Sampling Procedures. EPA/540/S-95/504. April.

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Appendix A ALTERNATIVE PARTS

The following parts are available to meet unique soil conditions. See section 3.0 for a complete listing of the common tool configurations for the Geoprobe® Screen Point 16 Groundwater Sampler.

SP16 Sampler Parts and Accessories.....	Part Number
SP16 Drive Head, 0.625-inch bore, 1.5-inch rods.....	15188
Expendable Drive Points, aluminum, 1.625-inch OD (Pkg. of 25)	GW1555ALK
Expendable Drive Points, steel, 1.75-inch OD (Pkg. of 25).....	17066K
Screen, PVC, 10-Slot	GW1530
Screen, Disposable, PVC, 10-Slot	16089

Groundwater Purging and Sampling Accessories	Part Number
Polyethylene Tubing, 0.25-inch OD, 500 ft.....	TB17L
Polyethylene Tubing, 0.5-inch OD, 500 ft.....	TB37L
Polyethylene Tubing, 0.625-inch OD, 50 ft.....	TB50L
Check Valve Assembly, 0.25-inch OD Tubing.....	GW4240
Check Valve Assembly, 0.5-inch OD Tubing	GW4220
Check Valve Assembly, 0.625-inch OD Tubing	GW4230
Water Level Meter, 0.375-inch OD Probe, 100-ft. cable	GW2001
Water Level Meter, 0.438-inch OD Probe, 200-ft. cable	GW2002
Water Level Meter, 0.375-inch OD Probe, 200-ft. cable	GW2003
Water Level Meter, 0.438-inch OD Probe, 30-m cable	GW2005
Water Level Meter, 0.438-inch OD Probe, 60-m cable	GW2007
Water Level Meter, 0.375-inch OD Probe, 60-m cable	GE2008

Grouting Accessories.....	Part Number
Grout Machine, auxiliary-powered	GS500

Probe Rods, Extension Rods, and Accessories	Part Number
Probe Rod, 1.5-inch x 1-meter.....	17899
Probe Rod, 1.5-inch x 48-inch.....	13359
Drive Cap, 1.5-inch rods (for GH40 Series Hammer)	15590
Rod Grip Pull Handle, 1.5-inch Probe Rods (for GH40 Series Hammer)	GH1555
Extension Rod, 48-inch	AT671
Extension Rod, 1-meter	AT675

Equipment and tool specifications, including weights, dimensions, materials, and operating specifications included in this brochure are subject to change without notice. Where specifications are critical to your application, please consult Geoprobe Systems®.



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Appendix B

Procedure Change Notification (May 8, 2012)



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May 8, 2012

Sheila A. Sullivan
Remedial Project Manager
Superfund Division
U.S. EPA, Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604

**Subject: Procedure Change Notification
Groundwater Monitoring Program
Granville Solvents Site
Granville, Licking County, Ohio
USEPA ID: OHD004495412**

Dear Ms. Sullivan,

AECOM, on behalf of the Granville Solvents Site Removal Management Group, LLC, is submitting this notification regarding groundwater sampling procedures at the referenced site. These revised procedures will be used for the 2012 semi-annual and subsequent sampling events. The following provides an explanation for and description of the change.

Performance monitoring is defined by the Post-Shutdown Contingency Plan (Contingency Plan) dated January 31, 2005. The Contingency Plan includes a groundwater monitoring program consisting of semi-annual sampling of a minimum of eight (8) designated wells. Collected samples have been analyzed for VOCs following the procedures outlined in the *Groundwater Monitoring Program Plan for the Granville Solvents Site in Granville, Ohio* (M&E 1995) (Groundwater Monitoring Plan). Procedures for sampling groundwater are outlined in Sections 4.6 and 5.2.4 of the Groundwater Monitoring Plan and generally consist of using a submersible pump to purge 3 to 5 well volumes followed by extracting groundwater at a rate of 100 mL per minute to fill the sample vials.

The submersible pumps currently utilized at the site to collect groundwater samples consist of a Grundfos™ dedicated sampling pump and dedicated tubing. The pumps and tubing are in poor condition and several are not functional. The seals on most of the wellhead manifolds are not water tight, potentially causing any surface water entering the flush-mount boxes to enter the well casing.

In order to meet the requirement in Section 4.6 of the Groundwater Monitoring Plan to collect groundwater samples that are representative of groundwater within the aquifer at each monitoring well location, the monitoring wells will be purged and sampled using the following low-flow methods.

Purging

A non-dedicated pneumatic or electric submersible bladder pump with pump controller will be utilized to purge each monitoring well. The pump will be slowly lowered to the mid-point of the well screen and the pumping rate (100-500 mL/min.) for each well will be adjusted until it will be equal to the natural groundwater flow velocity. This will be determined by measuring water column levels during pumping. A water quality meter with a flow-through cell will be utilized to monitor groundwater stabilization criteria, which will be collected every 3 to 5 minutes. A minimum of 3 sets of indicator parameters will be collected followed by additional sets until 3 consecutive readings meet the stabilization criteria. The well will be considered purged after the following parameters have stabilized:

Parameter	Stabilization Criteria
pH	± 0.1
Specific electric conductance	± 3%
Temperature	± 0.5°C
Turbidity	± 10% (when turbidity will be greater than 10 NTUs)

The pump used to purge and sample the wells will be decontaminated between sampling locations in accordance with Section 5.2.1 of the Groundwater Monitoring Plan. New disposable polyethylene bladders and tubing will be used between each well.

Sampling

The submersible pump and low-flow methods will be used to collect the groundwater samples. The in-line, flow-through water quality cells used during well purging will be disconnected prior to filling the sample bottles.

The existing dedicated sampling pump and tubing at each of the following wells will be replaced with a standard water-tight cap:

- MW-02D
- MW-04D
- MW-06
- MW-07D
- MW-08
- MW-P1
- GSSMW-15
- GSSEW-01
- GSSMW-08; and
- GSSMW-09.

Sampling reports will include a summary of the purge data and any deviations from this procedure will be noted.

If you have any questions regarding this procedure change, please contact me at (513) 878-6844 or e-mail me at ron.roelker@aecom.com.

Sincerely yours,



Ron Roelker, PE
Senior Project Manager



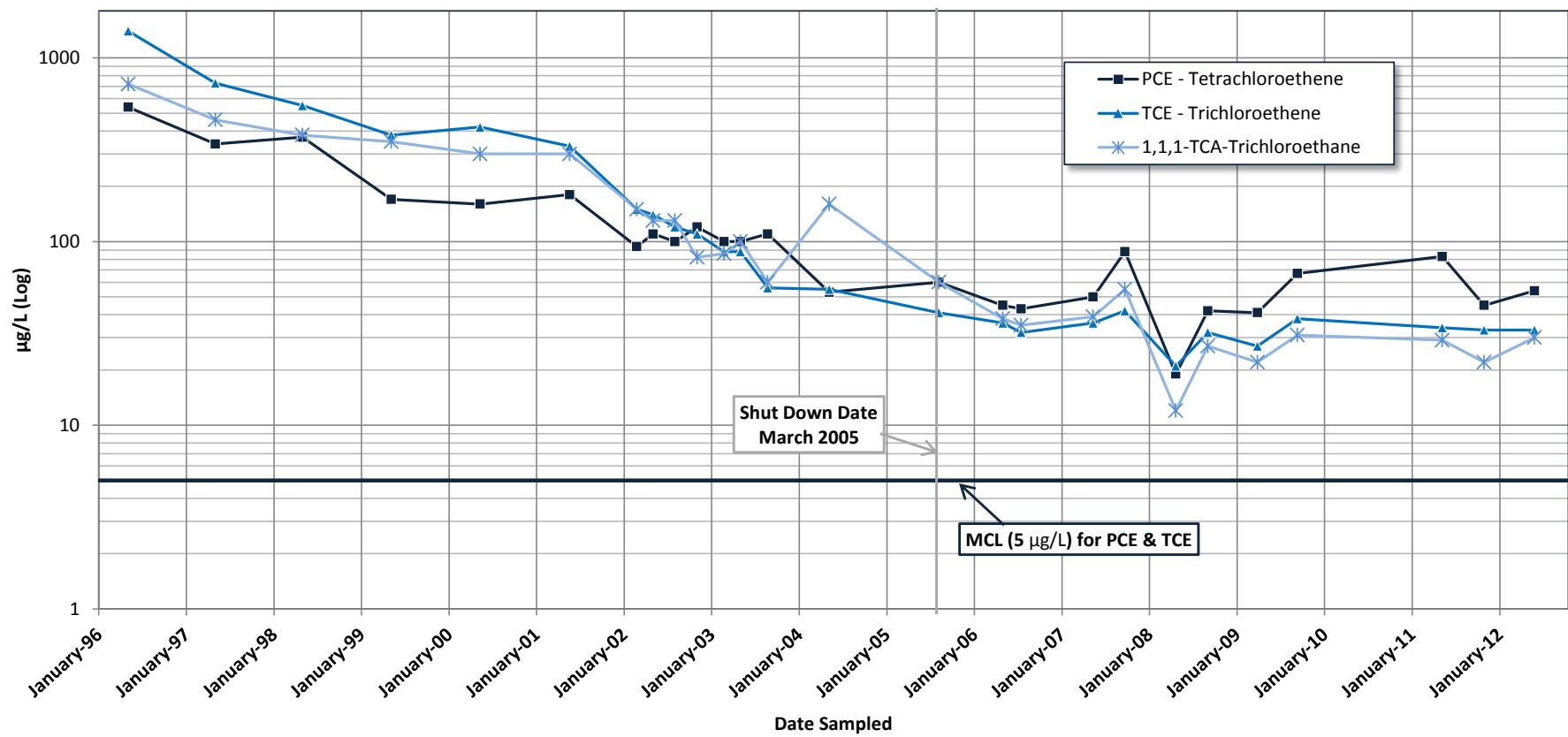
Mike Papp
Project Geologist

Cc: Bill Brewer, PhD, Granville Solvents SRM Group Site Manager
Fred Myers, Ohio EPA, DERR

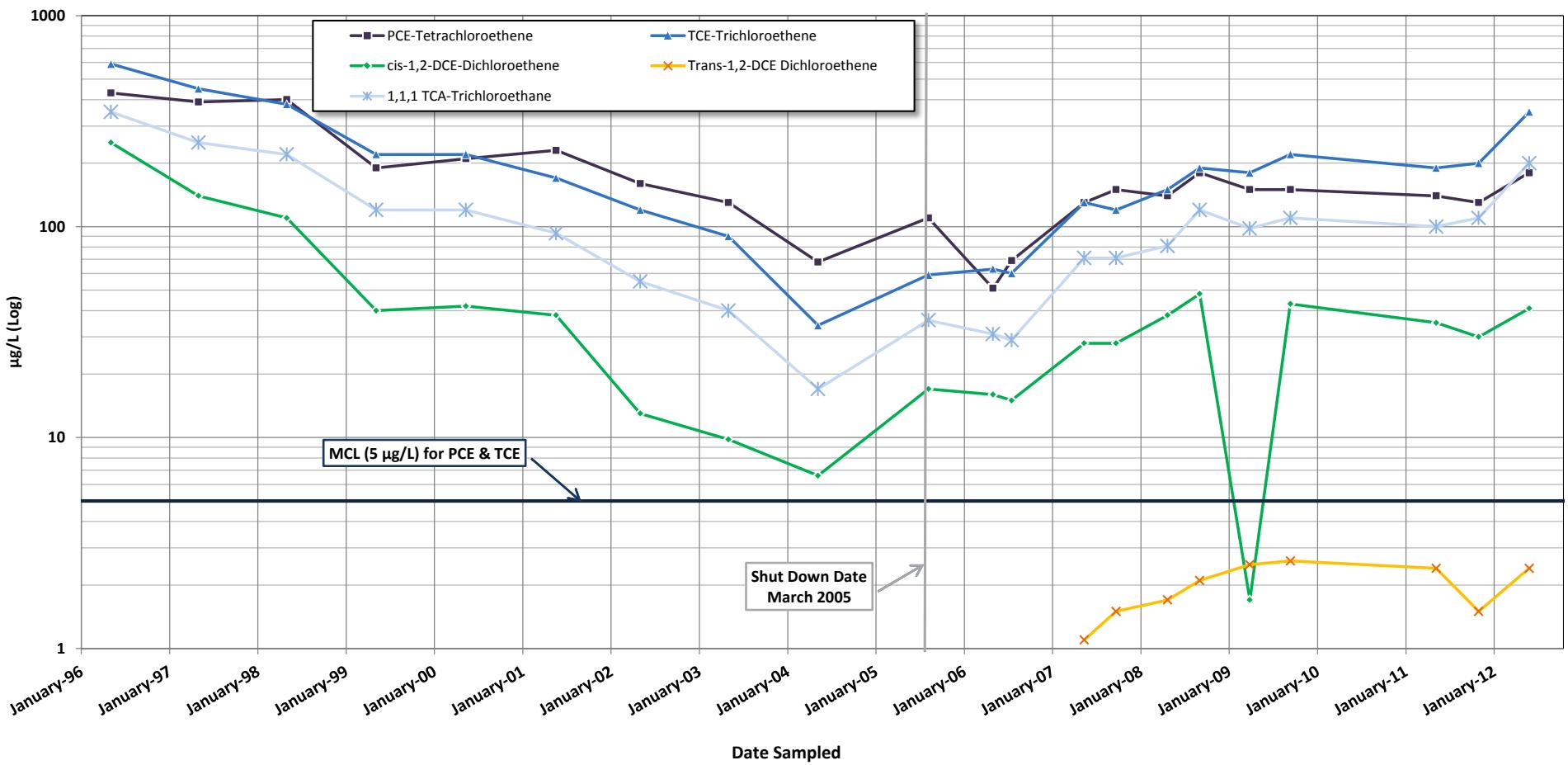
Appendix C

Concentration Trend Graphs

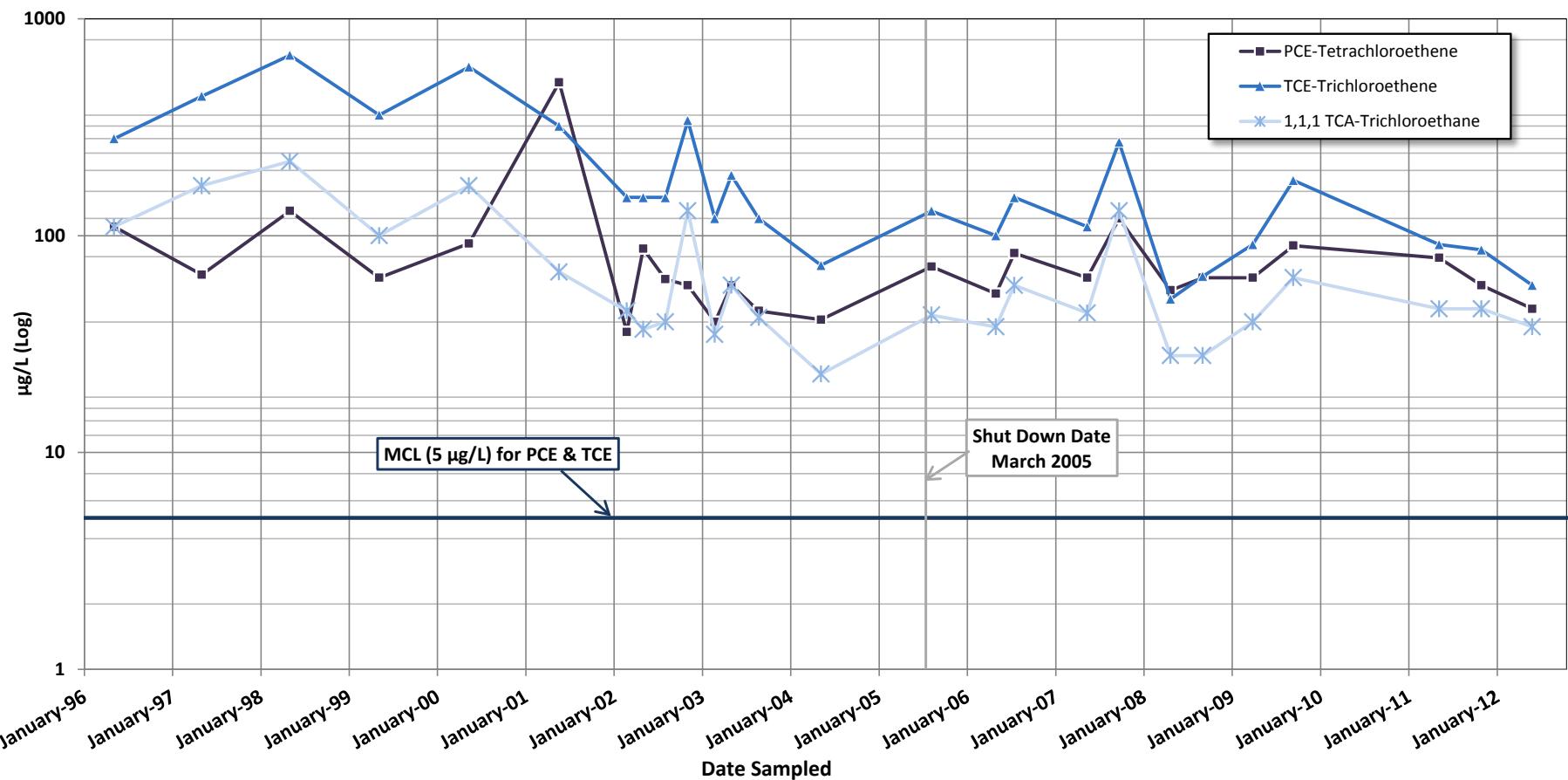
Well MW-P1 Log VOC Concentrations vs. Time - Through November 2011
[Source Area Well]



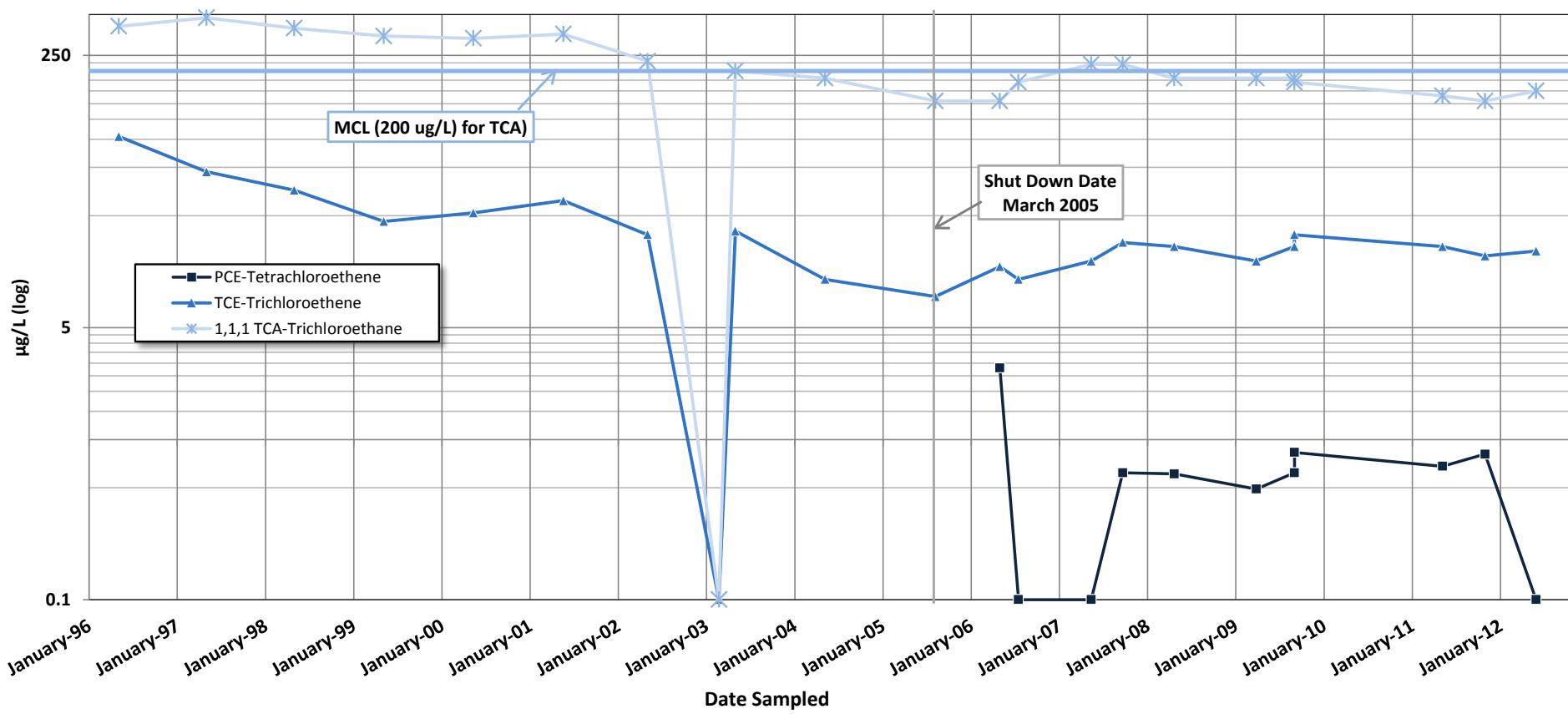
Well MW-02D Log VOC Concentrations vs. Time-Through November 2011
[Source Area Well]



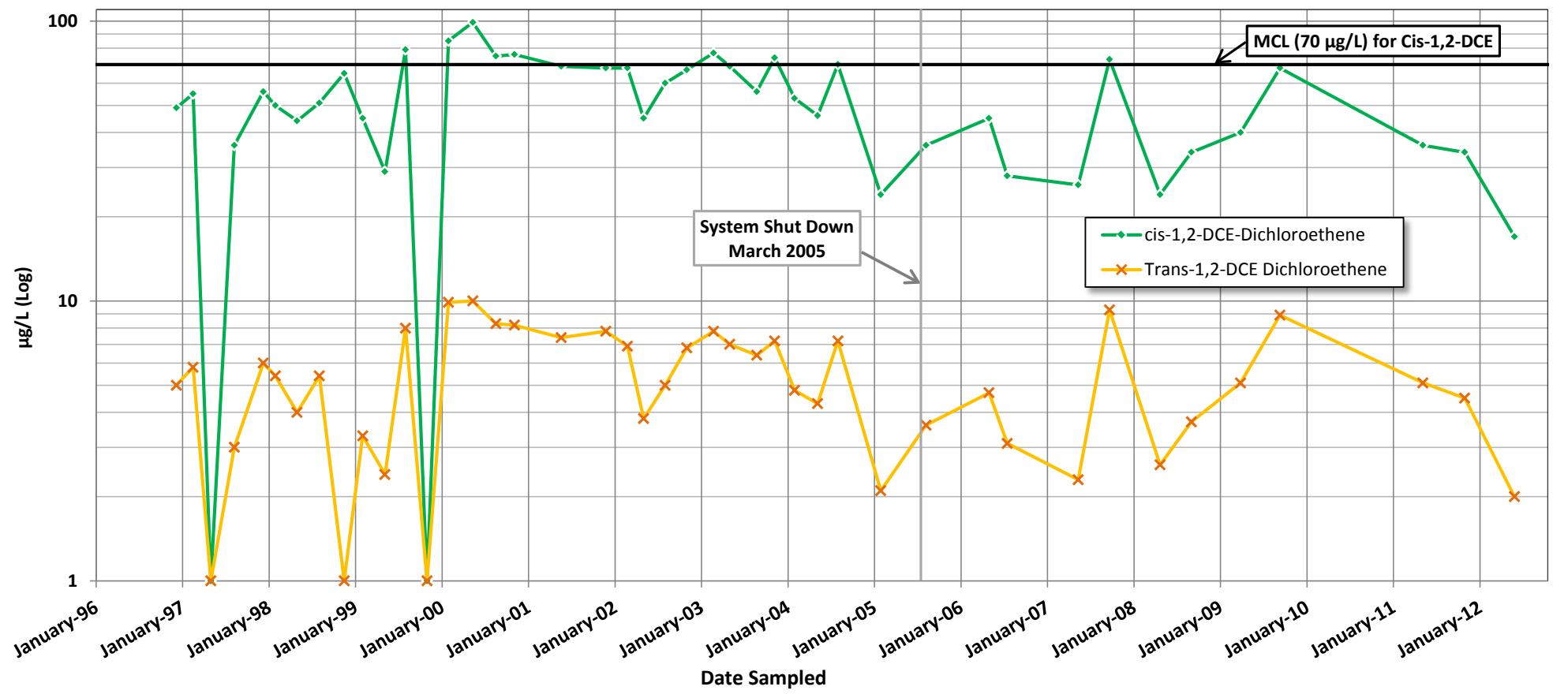
Well MW-04D Log VOC Concentrations vs. Time - Through November 2011
[Source Area Well]



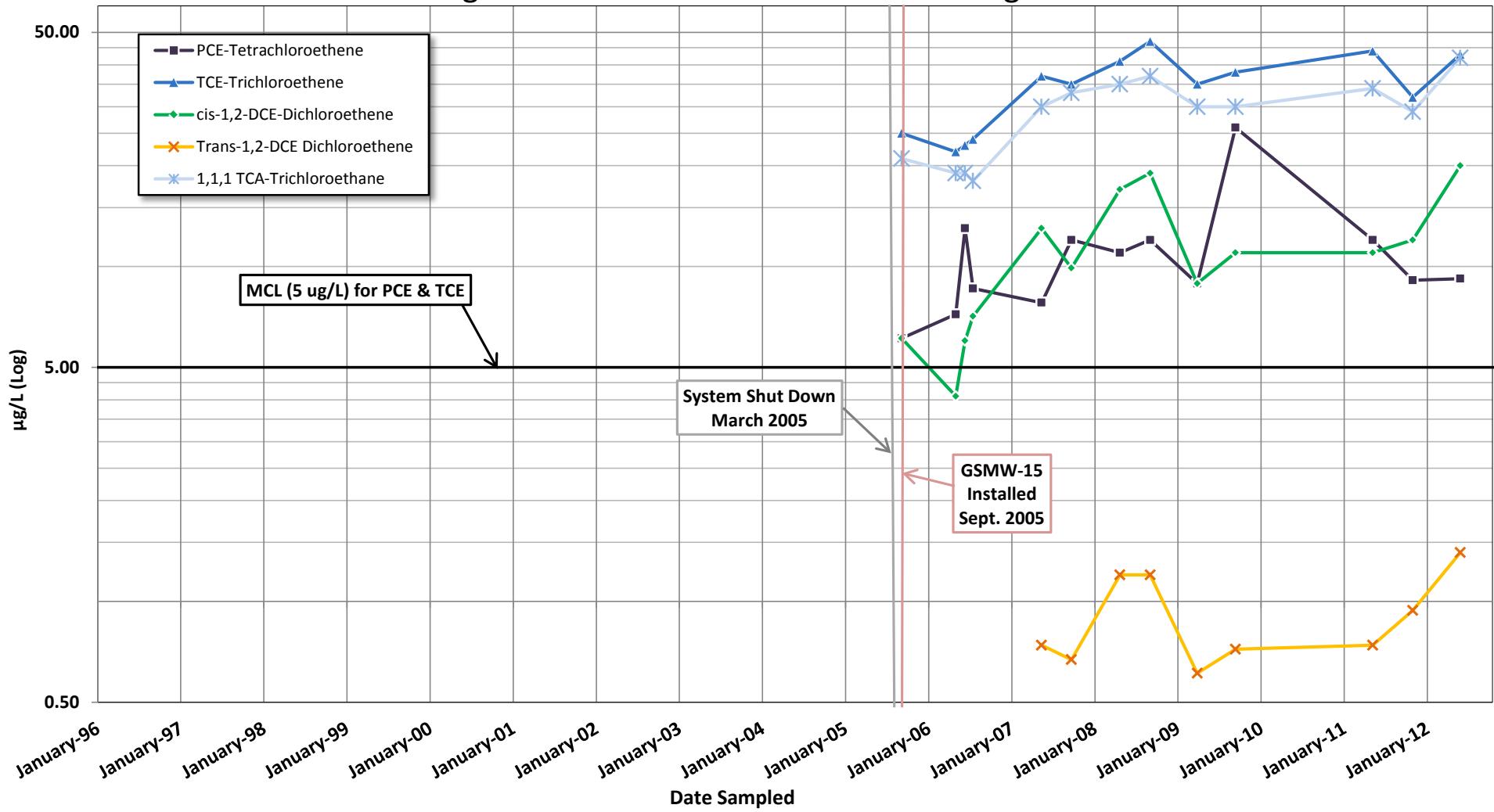
Well MW-06 Log VOC Concentrations vs. Time - Through November 2011
[Source Area Well]



Well MW-08 Log VOC Concentrations vs. Time - Through November 2011 [Leading Edge Well]



Well GSSMW-15 Log VOC Concentrations vs. Time -Through November 2011



Appendix D

Groundwater Analytical Report - Semi-Annual

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Savannah

5102 LaRoche Avenue

Savannah, GA 31404

Tel: (912)354-7858

TestAmerica Job ID: 680-79994-1

Client Project/Site: Granville Solvents

For:

AECOM, Inc.

4219 Malsbary Drive

Cincinnati, Ohio 45242

Attn: Michael Papp



Authorized for release by:

6/19/2012 7:24:20 PM

Lidya Gulizia

Project Manager II

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Sample Summary	5
Method Summary	6
Definitions	7
Detection Summary	8
Client Sample Results	10
Surrogate Summary	24
QC Sample Results	25
QC Association	47
Chronicle	49
Chain of Custody	52
Receipt Checklists	54
Certification Summary	56

Case Narrative

Client: AECOM, Inc.
Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Job ID: 680-79994-1

Laboratory: TestAmerica Savannah

Narrative

CASE NARRATIVE

Client: AECOM, Inc.

Project: Granville Solvents

Report Number: 680-79994-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 06/02/2012; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.2 C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples MW02D-053012 (680-79994-1), MW04D-053012 (680-79994-2), MW06-060112 (680-79994-3), MW07D-060112 (680-79994-4), MW08-053112 (680-79994-5), MWP1-053012 (680-79994-6), GSSMW08-053112 (680-79994-7), GSSMW09-053112 (680-79994-8), GSSMW15-053012 (680-79994-9), Dupe 01-053112 (680-79994-10), TB-053012 (680-79994-11) and EB-060112 (680-79994-12) were analyzed for Volatile organic Compounds (GC-MS) in accordance with EPA Method 524.2. The samples were analyzed on 06/10/2012, 06/13/2012, 06/14/2012 and 06/17/2012.

The method blank for batch 239863 contained 1,2,4-trichlorobenzene above the method detection limit (MDL). This target analyte concentration was less than one-half the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

The method blank associated with batch(s) 240306 and 240453 contained 1,2,4-trichlorobenzene greater than one-half the reporting limit (RL). The data have been qualified and reported.

The method blank for batch 240306 contained 1,3-dichlorobenzene and n-butylbenzene above the method detection limit (MDL). This target analyte concentration was less than one-half the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

A full list spike was utilized for this method. Due to the large number of spiked analytes, there is a high probability that one or more analytes will recover outside acceptance limits. The laboratory's SOP allows for 4 analytes to recover outside criteria for this method when a full list spike is utilized. The LCS associated with batch 240306 had 1 analytes outside control limits; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

A full list spike was utilized for this method. Due to the large number of spiked analytes, there is a high probability that one or more analytes will recover outside acceptance limits. The laboratory's SOP allows for 4 analytes to recover outside criteria for this method when a full list spike is utilized. The LCS associated with batch 240306 had 2 analytes outside control limits; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

A full list spike was utilized for this method. Due to the large number of spiked analytes, there is a high probability that one or more

Case Narrative

Client: AECOM, Inc.
Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Job ID: 680-79994-1 (Continued)

Laboratory: TestAmerica Savannah (Continued)

analytes will recover outside acceptance limits. The laboratory's SOP allows for 4 analytes to recover outside criteria for this method when a full list spike is utilized. The LCS associated with batch 240452 had 1 analytes outside control limits; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

A full list spike was utilized for this method. Due to the large number of spiked analytes, there is a high probability that one or more analytes will recover outside acceptance limits. The laboratory's SOP allows for 4 analytes to recover outside criteria for this method when a full list spike is utilized. Th LCS associated with batch 239863 had 1 analytes outside control limits; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Reanalysis of the following sample was performed outside of the analytical holding time: MW04D-053012 (680-79994-2) MWP1-053012 (680-79994-6), and Dupe 01-053112 (680-79994-10).

Samples MW02D-053012 (680-79994-1)[10X], MW04D-053012 (680-79994-2)[2X], MW06-060112 (680-79994-3)[5X], MWP1-053012 (680-79994-6)[2X], GSSMW15-053012 (680-79994-9)[2X] and Dupe 01-053112 (680-79994-10)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No other difficulties were encountered during the volatiles analyses.

All other quality control parameters were within the acceptance limits.

VOLATILE ORGANIC COMPOUNDS (GC/MS) - SELECTED ION MONITORING (SIM)

Sample MW06-060112 (680-79994-13) was analyzed for Volatile Organic Compounds (GC/MS) - Selected Ion Monitoring (SIM) in accordance with EPA SW846 Method 8260C. The samples were analyzed on 06/06/2012.

No difficulties were encountered during the VOC SIM analysis.

All quality control parameters were within the acceptance limits.

Sample Summary

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-79994-1	MW02D-053012	Water	05/30/12 15:18	06/02/12 09:22
680-79994-2	MW04D-053012	Water	05/30/12 11:55	06/02/12 09:22
680-79994-3	MW06-060112	Water	06/01/12 10:35	06/02/12 09:22
680-79994-4	MW07D-060112	Water	06/01/12 12:00	06/02/12 09:22
680-79994-5	MW08-053112	Water	05/31/12 10:55	06/02/12 09:22
680-79994-6	MWP1-053012	Water	05/30/12 13:40	06/02/12 09:22
680-79994-7	GSSMW08-053112	Water	05/31/12 13:06	06/02/12 09:22
680-79994-8	GSSMW09-053112	Water	05/31/12 16:30	06/02/12 09:22
680-79994-9	GSSMW15-053012	Water	05/30/12 16:45	06/02/12 09:22
680-79994-10	Dupe 01-053112	Water	05/31/12 00:00	06/02/12 09:22
680-79994-11	TB-053012	Water	05/30/12 00:00	06/02/12 09:22
680-79994-12	EB-060112	Water	06/01/12 17:00	06/02/12 09:22
680-79994-13	MW06-060112	Water	06/01/12 10:35	06/02/12 09:22

Method Summary

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Method	Method Description	Protocol	Laboratory
524.2	Volatile Organic Compounds (GC/MS)	EPA-DW	TAL SAV
8260C SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL TAM

Protocol References:

EPA-DW = "Methods For The Determination Of Organic Compounds In Drinking Water", EPA/600/4-88/039, December 1988 And Its Supplements.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

TAL TAM = TestAmerica Tampa, 6712 Benjamin Road, Suite 100, Tampa, FL 33634, TEL (813)885-7427

Definitions/Glossary

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD exceeds the control limits
H	Sample was prepped or analyzed beyond the specified holding time

Glossary

Abbreviation

These commonly used abbreviations may or may not be present in this report.

✉	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Detection Summary

Client: AECOM, Inc.
Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Client Sample ID: MW02D-053012

Lab Sample ID: 680-79994-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	41		0.50		ug/L	1		524.2	Total/NA
1,1-Dichloroethane	8.8		0.50		ug/L	1		524.2	Total/NA
1,1-Dichloroethene	2.4		0.50		ug/L	1		524.2	Total/NA
Tetrachloroethene	180		5.0		ug/L	10		524.2	Total/NA
trans-1,2-Dichloroethene	2.4		0.50		ug/L	1		524.2	Total/NA
1,1,1-Trichloroethane	200		5.0		ug/L	10		524.2	Total/NA
Trichloroethene	350		5.0		ug/L	10		524.2	Total/NA

Client Sample ID: MW04D-053012

Lab Sample ID: 680-79994-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	0.90		0.50		ug/L	1		524.2	Total/NA
cis-1,2-Dichloroethene	0.62		0.50		ug/L	1		524.2	Total/NA
1,1-Dichloroethane	6.7		0.50		ug/L	1		524.2	Total/NA
Tetrachloroethene	46		0.50		ug/L	1		524.2	Total/NA
1,1,1-Trichloroethane	38		0.50		ug/L	1		524.2	Total/NA
Trichloroethene	59	H	1.0		ug/L	2		524.2	Total/NA

Client Sample ID: MW06-060112

Lab Sample ID: 680-79994-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	150		2.5		ug/L	5		524.2	Total/NA
Trichloroethene	15		0.50		ug/L	1		524.2	Total/NA

Client Sample ID: MW07D-060112

Lab Sample ID: 680-79994-4

No Detections

Client Sample ID: MW08-053112

Lab Sample ID: 680-79994-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	17		0.50		ug/L	1		524.2	Total/NA
1,1-Dichloroethane	1.4		0.50		ug/L	1		524.2	Total/NA
trans-1,2-Dichloroethene	2.0		0.50		ug/L	1		524.2	Total/NA

Client Sample ID: MWP1-053012

Lab Sample ID: 680-79994-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	54	H	1.0		ug/L	2		524.2	Total/NA
1,1,1-Trichloroethane	30		0.50		ug/L	1		524.2	Total/NA
Trichloroethene	33		0.50		ug/L	1		524.2	Total/NA

Client Sample ID: GSSMW08-053112

Lab Sample ID: 680-79994-7

No Detections

Client Sample ID: GSSMW09-053112

Lab Sample ID: 680-79994-8

No Detections

Client Sample ID: GSSMW15-053012

Lab Sample ID: 680-79994-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	20		0.50		ug/L	1		524.2	Total/NA

Detection Summary

Client: AECOM, Inc.
Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Client Sample ID: GSSMW15-053012 (Continued)

Lab Sample ID: 680-79994-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	5.8		0.50		ug/L	1		524.2	Total/NA
Tetrachloroethene	9.2		0.50		ug/L	1		524.2	Total/NA
trans-1,2-Dichloroethene	1.4		0.50		ug/L	1		524.2	Total/NA
1,1,1-Trichloroethane	42		0.50		ug/L	1		524.2	Total/NA
Trichloroethene	43	H		1.0	ug/L	2		524.2	Total/NA

Client Sample ID: Dupe 01-053112

Lab Sample ID: 680-79994-10

No Detections

Client Sample ID: TB-053012

Lab Sample ID: 680-79994-11

No Detections

Client Sample ID: EB-060112

Lab Sample ID: 680-79994-12

No Detections

Client Sample ID: MW06-060112

Lab Sample ID: 680-79994-13

No Detections

Client Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Client Sample ID: MW02D-053012

Lab Sample ID: 680-79994-1

Matrix: Water

Date Collected: 05/30/12 15:18

Date Received: 06/02/12 09:22

Method: 524.2 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.50		0.50		ug/L			06/10/12 23:27	1
Bromobenzene	<0.50		0.50		ug/L			06/10/12 23:27	1
Bromoform	<0.50		0.50		ug/L			06/10/12 23:27	1
Bromomethane	<1.0		1.0		ug/L			06/10/12 23:27	1
Carbon tetrachloride	<0.50		0.50		ug/L			06/10/12 23:27	1
Chlorobenzene	<0.50		0.50		ug/L			06/10/12 23:27	1
Chlorodibromomethane	<0.50		0.50		ug/L			06/10/12 23:27	1
Chloroethane	<1.0		1.0		ug/L			06/10/12 23:27	1
Chloroform	<0.50		0.50		ug/L			06/10/12 23:27	1
Chloromethane	<0.50		0.50		ug/L			06/10/12 23:27	1
2-Chlorotoluene	<0.50		0.50		ug/L			06/10/12 23:27	1
4-Chlorotoluene	<0.50		0.50		ug/L			06/10/12 23:27	1
cis-1,2-Dichloroethene	41		0.50		ug/L			06/10/12 23:27	1
cis-1,3-Dichloropropene	<0.50		0.50		ug/L			06/10/12 23:27	1
Dibromomethane	<0.50		0.50		ug/L			06/10/12 23:27	1
1,2-Dichlorobenzene	<0.50		0.50		ug/L			06/10/12 23:27	1
1,3-Dichlorobenzene	<0.50		0.50		ug/L			06/10/12 23:27	1
1,4-Dichlorobenzene	<0.50		0.50		ug/L			06/10/12 23:27	1
Dichlorobromomethane	<1.0		1.0		ug/L			06/10/12 23:27	1
1,1-Dichloroethane	8.8		0.50		ug/L			06/10/12 23:27	1
1,2-Dichloroethane	<0.50		0.50		ug/L			06/10/12 23:27	1
1,1-Dichloroethene	2.4		0.50		ug/L			06/10/12 23:27	1
1,2-Dichloropropane	<0.50		0.50		ug/L			06/10/12 23:27	1
1,3-Dichloropropane	<0.50		0.50		ug/L			06/10/12 23:27	1
2,2-Dichloropropane	<0.50		0.50		ug/L			06/10/12 23:27	1
1,1-Dichloropropene	<0.50		0.50		ug/L			06/10/12 23:27	1
Ethylbenzene	<0.50		0.50		ug/L			06/10/12 23:27	1
Methylene Chloride	<0.50 *		0.50		ug/L			06/10/12 23:27	1
Methyl tert-butyl ether	<0.50		0.50		ug/L			06/10/12 23:27	1
m-Xylene & p-Xylene	<0.50		0.50		ug/L			06/10/12 23:27	1
o-Xylene	<0.50		0.50		ug/L			06/10/12 23:27	1
Styrene	<0.50		0.50		ug/L			06/10/12 23:27	1
1,1,1,2-Tetrachloroethane	<0.50		0.50		ug/L			06/10/12 23:27	1
1,1,2,2-Tetrachloroethane	<0.50		0.50		ug/L			06/10/12 23:27	1
Tetrachloroethene	180		5.0		ug/L			06/13/12 01:00	10
Toluene	<0.50		0.50		ug/L			06/10/12 23:27	1
trans-1,2-Dichloroethene	2.4		0.50		ug/L			06/10/12 23:27	1
trans-1,3-Dichloropropene	<0.50		0.50		ug/L			06/10/12 23:27	1
1,2,4-Trichlorobenzene	<0.50		0.50		ug/L			06/10/12 23:27	1
1,1,1-Trichloroethane	200		5.0		ug/L			06/13/12 01:00	10
1,1,2-Trichloroethane	<0.50		0.50		ug/L			06/10/12 23:27	1
Trichloroethene	350		5.0		ug/L			06/13/12 01:00	10
1,2,3-Trichloropropane	<0.50		0.50		ug/L			06/10/12 23:27	1
Vinyl chloride	<0.50		0.50		ug/L			06/10/12 23:27	1
Xylenes, Total	<0.50		0.50		ug/L			06/10/12 23:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	112		70 - 130					06/10/12 23:27	1
4-Bromofluorobenzene	102		70 - 130					06/13/12 01:00	10
1,2-Dichlorobenzene-d4	107		70 - 130					06/10/12 23:27	1
1,2-Dichlorobenzene-d4	100		70 - 130					06/13/12 01:00	10

Client Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Client Sample ID: MW04D-053012

Lab Sample ID: 680-79994-2

Matrix: Water

Date Collected: 05/30/12 11:55

Date Received: 06/02/12 09:22

Method: 524.2 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.50		0.50		ug/L			06/13/12 17:34	1
Bromobenzene	<0.50		0.50		ug/L			06/13/12 17:34	1
Bromoform	<0.50		0.50		ug/L			06/13/12 17:34	1
Bromomethane	<1.0		1.0		ug/L			06/13/12 17:34	1
Carbon tetrachloride	<0.50		0.50		ug/L			06/13/12 17:34	1
Chlorobenzene	<0.50		0.50		ug/L			06/13/12 17:34	1
Chlorodibromomethane	<0.50		0.50		ug/L			06/13/12 17:34	1
Chloroethane	<1.0		1.0		ug/L			06/13/12 17:34	1
Chloroform	0.90		0.50		ug/L			06/13/12 17:34	1
Chloromethane	<0.50		0.50		ug/L			06/13/12 17:34	1
2-Chlorotoluene	<0.50		0.50		ug/L			06/13/12 17:34	1
4-Chlorotoluene	<0.50		0.50		ug/L			06/13/12 17:34	1
cis-1,2-Dichloroethene	0.62		0.50		ug/L			06/13/12 17:34	1
cis-1,3-Dichloropropene	<0.50		0.50		ug/L			06/13/12 17:34	1
Dibromomethane	<0.50		0.50		ug/L			06/13/12 17:34	1
1,2-Dichlorobenzene	<0.50		0.50		ug/L			06/13/12 17:34	1
1,3-Dichlorobenzene	<0.50		0.50		ug/L			06/13/12 17:34	1
1,4-Dichlorobenzene	<0.50		0.50		ug/L			06/13/12 17:34	1
Dichlorobromomethane	<1.0		1.0		ug/L			06/13/12 17:34	1
1,1-Dichloroethane	6.7		0.50		ug/L			06/13/12 17:34	1
1,2-Dichloroethane	<0.50		0.50		ug/L			06/13/12 17:34	1
1,1-Dichloroethene	<0.50		0.50		ug/L			06/13/12 17:34	1
1,2-Dichloropropane	<0.50		0.50		ug/L			06/13/12 17:34	1
1,3-Dichloropropane	<0.50		0.50		ug/L			06/13/12 17:34	1
2,2-Dichloropropane	<0.50		0.50		ug/L			06/13/12 17:34	1
1,1-Dichloropropene	<0.50		0.50		ug/L			06/13/12 17:34	1
Ethylbenzene	<0.50		0.50		ug/L			06/13/12 17:34	1
Methylene Chloride	<0.50		0.50		ug/L			06/13/12 17:34	1
Methyl tert-butyl ether	<0.50		0.50		ug/L			06/13/12 17:34	1
m-Xylene & p-Xylene	<0.50		0.50		ug/L			06/13/12 17:34	1
o-Xylene	<0.50		0.50		ug/L			06/13/12 17:34	1
Styrene	<0.50		0.50		ug/L			06/13/12 17:34	1
1,1,1,2-Tetrachloroethane	<0.50		0.50		ug/L			06/13/12 17:34	1
1,1,2,2-Tetrachloroethane	<0.50		0.50		ug/L			06/13/12 17:34	1
Tetrachloroethene	46		0.50		ug/L			06/13/12 17:34	1
Toluene	<0.50		0.50		ug/L			06/13/12 17:34	1
trans-1,2-Dichloroethene	<0.50		0.50		ug/L			06/13/12 17:34	1
trans-1,3-Dichloropropene	<0.50		0.50		ug/L			06/13/12 17:34	1
1,2,4-Trichlorobenzene	<0.50		0.50		ug/L			06/13/12 17:34	1
1,1,1-Trichloroethane	38		0.50		ug/L			06/13/12 17:34	1
1,1,2-Trichloroethane	<0.50		0.50		ug/L			06/13/12 17:34	1
Trichloroethene	59 H		1.0		ug/L			06/14/12 19:53	2
1,2,3-Trichloropropane	<0.50		0.50		ug/L			06/13/12 17:34	1
Vinyl chloride	<0.50		0.50		ug/L			06/13/12 17:34	1
Xylenes, Total	<0.50		0.50		ug/L			06/13/12 17:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	115		70 - 130					06/13/12 17:34	1
4-Bromofluorobenzene	99		70 - 130					06/14/12 19:53	2
1,2-Dichlorobenzene-d4	113		70 - 130					06/13/12 17:34	1
1,2-Dichlorobenzene-d4	97		70 - 130					06/14/12 19:53	2

Client Sample Results

Client: AECOM, Inc.
Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Client Sample ID: MW06-060112

Lab Sample ID: 680-79994-3

Matrix: Water

Date Collected: 06/01/12 10:35

Date Received: 06/02/12 09:22

Method: 524.2 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.50		0.50		ug/L			06/13/12 23:28	1
Bromobenzene	<0.50		0.50		ug/L			06/13/12 23:28	1
Bromoform	<0.50		0.50		ug/L			06/13/12 23:28	1
Bromomethane	<1.0		1.0		ug/L			06/13/12 23:28	1
Carbon tetrachloride	<0.50		0.50		ug/L			06/13/12 23:28	1
Chlorobenzene	<0.50		0.50		ug/L			06/13/12 23:28	1
Chlorodibromomethane	<0.50		0.50		ug/L			06/13/12 23:28	1
Chloroethane	<1.0		1.0		ug/L			06/13/12 23:28	1
Chloroform	<0.50		0.50		ug/L			06/13/12 23:28	1
Chloromethane	<0.50		0.50		ug/L			06/13/12 23:28	1
2-Chlorotoluene	<0.50		0.50		ug/L			06/13/12 23:28	1
4-Chlorotoluene	<0.50		0.50		ug/L			06/13/12 23:28	1
cis-1,2-Dichloroethene	<0.50		0.50		ug/L			06/13/12 23:28	1
cis-1,3-Dichloropropene	<0.50		0.50		ug/L			06/13/12 23:28	1
Dibromomethane	<0.50		0.50		ug/L			06/13/12 23:28	1
1,2-Dichlorobenzene	<0.50		0.50		ug/L			06/13/12 23:28	1
1,3-Dichlorobenzene	<0.50		0.50		ug/L			06/13/12 23:28	1
1,4-Dichlorobenzene	<0.50		0.50		ug/L			06/13/12 23:28	1
Dichlorobromomethane	<1.0		1.0		ug/L			06/13/12 23:28	1
1,1-Dichloroethane	<0.50		0.50		ug/L			06/13/12 23:28	1
1,2-Dichloroethane	<0.50		0.50		ug/L			06/13/12 23:28	1
1,1-Dichloroethene	<0.50		0.50		ug/L			06/13/12 23:28	1
1,2-Dichloropropane	<0.50		0.50		ug/L			06/13/12 23:28	1
1,3-Dichloropropane	<0.50		0.50		ug/L			06/13/12 23:28	1
2,2-Dichloropropane	<0.50		0.50		ug/L			06/13/12 23:28	1
1,1-Dichloropropene	<0.50		0.50		ug/L			06/13/12 23:28	1
Ethylbenzene	<0.50		0.50		ug/L			06/13/12 23:28	1
Methylene Chloride	<0.50		0.50		ug/L			06/13/12 23:28	1
Methyl tert-butyl ether	<0.50		0.50		ug/L			06/13/12 23:28	1
m-Xylene & p-Xylene	<0.50		0.50		ug/L			06/13/12 23:28	1
o-Xylene	<0.50		0.50		ug/L			06/13/12 23:28	1
Styrene	<0.50		0.50		ug/L			06/13/12 23:28	1
1,1,1,2-Tetrachloroethane	<0.50		0.50		ug/L			06/13/12 23:28	1
1,1,2,2-Tetrachloroethane	<0.50		0.50		ug/L			06/13/12 23:28	1
Tetrachloroethene	<0.50		0.50		ug/L			06/13/12 23:28	1
Toluene	<0.50		0.50		ug/L			06/13/12 23:28	1
trans-1,2-Dichloroethene	<0.50		0.50		ug/L			06/13/12 23:28	1
trans-1,3-Dichloropropene	<0.50		0.50		ug/L			06/13/12 23:28	1
1,2,4-Trichlorobenzene	<0.50		0.50		ug/L			06/13/12 23:28	1
1,1,1-Trichloroethane	150		2.5		ug/L			06/14/12 20:21	5
1,1,2-Trichloroethane	<0.50		0.50		ug/L			06/13/12 23:28	1
Trichloroethene	15		0.50		ug/L			06/13/12 23:28	1
1,2,3-Trichloropropane	<0.50		0.50		ug/L			06/13/12 23:28	1
Vinyl chloride	<0.50		0.50		ug/L			06/13/12 23:28	1
Xylenes, Total	<0.50		0.50		ug/L			06/13/12 23:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	112		70 - 130			1
4-Bromofluorobenzene	102		70 - 130			5
1,2-Dichlorobenzene-d4	109		70 - 130			1
1,2-Dichlorobenzene-d4	108		70 - 130			5

Client Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Client Sample ID: MW07D-060112

Lab Sample ID: 680-79994-4

Matrix: Water

Date Collected: 06/01/12 12:00

Date Received: 06/02/12 09:22

Method: 524.2 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.50		0.50		ug/L			06/13/12 23:55	1
Bromobenzene	<0.50		0.50		ug/L			06/13/12 23:55	1
Bromoform	<0.50		0.50		ug/L			06/13/12 23:55	1
Bromomethane	<1.0		1.0		ug/L			06/13/12 23:55	1
Carbon tetrachloride	<0.50		0.50		ug/L			06/13/12 23:55	1
Chlorobenzene	<0.50		0.50		ug/L			06/13/12 23:55	1
Chlorodibromomethane	<0.50		0.50		ug/L			06/13/12 23:55	1
Chloroethane	<1.0		1.0		ug/L			06/13/12 23:55	1
Chloroform	<0.50		0.50		ug/L			06/13/12 23:55	1
Chloromethane	<0.50		0.50		ug/L			06/13/12 23:55	1
2-Chlorotoluene	<0.50		0.50		ug/L			06/13/12 23:55	1
4-Chlorotoluene	<0.50		0.50		ug/L			06/13/12 23:55	1
cis-1,2-Dichloroethene	<0.50		0.50		ug/L			06/13/12 23:55	1
cis-1,3-Dichloropropene	<0.50		0.50		ug/L			06/13/12 23:55	1
Dibromomethane	<0.50		0.50		ug/L			06/13/12 23:55	1
1,2-Dichlorobenzene	<0.50		0.50		ug/L			06/13/12 23:55	1
1,3-Dichlorobenzene	<0.50		0.50		ug/L			06/13/12 23:55	1
1,4-Dichlorobenzene	<0.50		0.50		ug/L			06/13/12 23:55	1
Dichlorobromomethane	<1.0		1.0		ug/L			06/13/12 23:55	1
1,1-Dichloroethane	<0.50		0.50		ug/L			06/13/12 23:55	1
1,2-Dichloroethane	<0.50		0.50		ug/L			06/13/12 23:55	1
1,1-Dichloroethene	<0.50		0.50		ug/L			06/13/12 23:55	1
1,2-Dichloropropane	<0.50		0.50		ug/L			06/13/12 23:55	1
1,3-Dichloropropane	<0.50		0.50		ug/L			06/13/12 23:55	1
2,2-Dichloropropane	<0.50		0.50		ug/L			06/13/12 23:55	1
1,1-Dichloropropene	<0.50		0.50		ug/L			06/13/12 23:55	1
Ethylbenzene	<0.50		0.50		ug/L			06/13/12 23:55	1
Methylene Chloride	<0.50		0.50		ug/L			06/13/12 23:55	1
Methyl tert-butyl ether	<0.50		0.50		ug/L			06/13/12 23:55	1
m-Xylene & p-Xylene	<0.50		0.50		ug/L			06/13/12 23:55	1
o-Xylene	<0.50		0.50		ug/L			06/13/12 23:55	1
Styrene	<0.50		0.50		ug/L			06/13/12 23:55	1
1,1,1,2-Tetrachloroethane	<0.50		0.50		ug/L			06/13/12 23:55	1
1,1,2,2-Tetrachloroethane	<0.50		0.50		ug/L			06/13/12 23:55	1
Tetrachloroethene	<0.50		0.50		ug/L			06/13/12 23:55	1
Toluene	<0.50		0.50		ug/L			06/13/12 23:55	1
trans-1,2-Dichloroethene	<0.50		0.50		ug/L			06/13/12 23:55	1
trans-1,3-Dichloropropene	<0.50		0.50		ug/L			06/13/12 23:55	1
1,2,4-Trichlorobenzene	<0.50		0.50		ug/L			06/13/12 23:55	1
1,1,1-Trichloroethane	<0.50		0.50		ug/L			06/13/12 23:55	1
1,1,2-Trichloroethane	<0.50		0.50		ug/L			06/13/12 23:55	1
Trichloroethene	<0.50		0.50		ug/L			06/13/12 23:55	1
1,2,3-Trichloropropane	<0.50		0.50		ug/L			06/13/12 23:55	1
Vinyl chloride	<0.50		0.50		ug/L			06/13/12 23:55	1
Xylenes, Total	<0.50		0.50		ug/L			06/13/12 23:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	115		70 - 130			
1,2-Dichlorobenzene-d4	113		70 - 130			

Client Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Client Sample ID: MW08-053112

Lab Sample ID: 680-79994-5

Matrix: Water

Date Collected: 05/31/12 10:55

Date Received: 06/02/12 09:22

Method: 524.2 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.50		0.50		ug/L			06/14/12 00:22	1
Bromobenzene	<0.50		0.50		ug/L			06/14/12 00:22	1
Bromoform	<0.50		0.50		ug/L			06/14/12 00:22	1
Bromomethane	<1.0		1.0		ug/L			06/14/12 00:22	1
Carbon tetrachloride	<0.50		0.50		ug/L			06/14/12 00:22	1
Chlorobenzene	<0.50		0.50		ug/L			06/14/12 00:22	1
Chlorodibromomethane	<0.50		0.50		ug/L			06/14/12 00:22	1
Chloroethane	<1.0		1.0		ug/L			06/14/12 00:22	1
Chloroform	<0.50		0.50		ug/L			06/14/12 00:22	1
Chloromethane	<0.50		0.50		ug/L			06/14/12 00:22	1
2-Chlorotoluene	<0.50		0.50		ug/L			06/14/12 00:22	1
4-Chlorotoluene	<0.50		0.50		ug/L			06/14/12 00:22	1
cis-1,2-Dichloroethene	17		0.50		ug/L			06/14/12 00:22	1
cis-1,3-Dichloropropene	<0.50		0.50		ug/L			06/14/12 00:22	1
Dibromomethane	<0.50		0.50		ug/L			06/14/12 00:22	1
1,2-Dichlorobenzene	<0.50		0.50		ug/L			06/14/12 00:22	1
1,3-Dichlorobenzene	<0.50		0.50		ug/L			06/14/12 00:22	1
1,4-Dichlorobenzene	<0.50		0.50		ug/L			06/14/12 00:22	1
Dichlorobromomethane	<1.0		1.0		ug/L			06/14/12 00:22	1
1,1-Dichloroethane	1.4		0.50		ug/L			06/14/12 00:22	1
1,2-Dichloroethane	<0.50		0.50		ug/L			06/14/12 00:22	1
1,1-Dichloroethene	<0.50		0.50		ug/L			06/14/12 00:22	1
1,2-Dichloropropane	<0.50		0.50		ug/L			06/14/12 00:22	1
1,3-Dichloropropane	<0.50		0.50		ug/L			06/14/12 00:22	1
2,2-Dichloropropane	<0.50		0.50		ug/L			06/14/12 00:22	1
1,1-Dichloropropene	<0.50		0.50		ug/L			06/14/12 00:22	1
Ethylbenzene	<0.50		0.50		ug/L			06/14/12 00:22	1
Methylene Chloride	<0.50		0.50		ug/L			06/14/12 00:22	1
Methyl tert-butyl ether	<0.50		0.50		ug/L			06/14/12 00:22	1
m-Xylene & p-Xylene	<0.50		0.50		ug/L			06/14/12 00:22	1
o-Xylene	<0.50		0.50		ug/L			06/14/12 00:22	1
Styrene	<0.50		0.50		ug/L			06/14/12 00:22	1
1,1,1,2-Tetrachloroethane	<0.50		0.50		ug/L			06/14/12 00:22	1
1,1,2,2-Tetrachloroethane	<0.50		0.50		ug/L			06/14/12 00:22	1
Tetrachloroethene	<0.50		0.50		ug/L			06/14/12 00:22	1
Toluene	<0.50		0.50		ug/L			06/14/12 00:22	1
trans-1,2-Dichloroethene	2.0		0.50		ug/L			06/14/12 00:22	1
trans-1,3-Dichloropropene	<0.50		0.50		ug/L			06/14/12 00:22	1
1,2,4-Trichlorobenzene	<0.50		0.50		ug/L			06/14/12 00:22	1
1,1,1-Trichloroethane	<0.50		0.50		ug/L			06/14/12 00:22	1
1,1,2-Trichloroethane	<0.50		0.50		ug/L			06/14/12 00:22	1
Trichloroethene	<0.50		0.50		ug/L			06/14/12 00:22	1
1,2,3-Trichloropropane	<0.50		0.50		ug/L			06/14/12 00:22	1
Vinyl chloride	<0.50		0.50		ug/L			06/14/12 00:22	1
Xylenes, Total	<0.50		0.50		ug/L			06/14/12 00:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	115		70 - 130			
1,2-Dichlorobenzene-d4	110		70 - 130			

Client Sample Results

Client: AECOM, Inc.
Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Client Sample ID: MWP1-053012

Lab Sample ID: 680-79994-6

Matrix: Water

Date Collected: 05/30/12 13:40
Date Received: 06/02/12 09:22

Method: 524.2 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.50		0.50		ug/L		06/13/12 18:01		1
Bromobenzene	<0.50		0.50		ug/L		06/13/12 18:01		1
Bromoform	<0.50		0.50		ug/L		06/13/12 18:01		1
Bromomethane	<1.0		1.0		ug/L		06/13/12 18:01		1
Carbon tetrachloride	<0.50		0.50		ug/L		06/13/12 18:01		1
Chlorobenzene	<0.50		0.50		ug/L		06/13/12 18:01		1
Chlorodibromomethane	<0.50		0.50		ug/L		06/13/12 18:01		1
Chloroethane	<1.0		1.0		ug/L		06/13/12 18:01		1
Chloroform	<0.50		0.50		ug/L		06/13/12 18:01		1
Chloromethane	<0.50		0.50		ug/L		06/13/12 18:01		1
2-Chlorotoluene	<0.50		0.50		ug/L		06/13/12 18:01		1
4-Chlorotoluene	<0.50		0.50		ug/L		06/13/12 18:01		1
cis-1,2-Dichloroethene	<0.50		0.50		ug/L		06/13/12 18:01		1
cis-1,3-Dichloropropene	<0.50		0.50		ug/L		06/13/12 18:01		1
Dibromomethane	<0.50		0.50		ug/L		06/13/12 18:01		1
1,2-Dichlorobenzene	<0.50		0.50		ug/L		06/13/12 18:01		1
1,3-Dichlorobenzene	<0.50		0.50		ug/L		06/13/12 18:01		1
1,4-Dichlorobenzene	<0.50		0.50		ug/L		06/13/12 18:01		1
Dichlorobromomethane	<1.0		1.0		ug/L		06/13/12 18:01		1
1,1-Dichloroethane	<0.50		0.50		ug/L		06/13/12 18:01		1
1,2-Dichloroethane	<0.50		0.50		ug/L		06/13/12 18:01		1
1,1-Dichloroethene	<0.50		0.50		ug/L		06/13/12 18:01		1
1,2-Dichloropropane	<0.50		0.50		ug/L		06/13/12 18:01		1
1,3-Dichloropropane	<0.50		0.50		ug/L		06/13/12 18:01		1
2,2-Dichloropropane	<0.50		0.50		ug/L		06/13/12 18:01		1
1,1-Dichloropropene	<0.50		0.50		ug/L		06/13/12 18:01		1
Ethylbenzene	<0.50		0.50		ug/L		06/13/12 18:01		1
Methylene Chloride	<0.50		0.50		ug/L		06/13/12 18:01		1
Methyl tert-butyl ether	<0.50		0.50		ug/L		06/13/12 18:01		1
m-Xylene & p-Xylene	<0.50		0.50		ug/L		06/13/12 18:01		1
o-Xylene	<0.50		0.50		ug/L		06/13/12 18:01		1
Styrene	<0.50		0.50		ug/L		06/13/12 18:01		1
1,1,1,2-Tetrachloroethane	<0.50		0.50		ug/L		06/13/12 18:01		1
1,1,2,2-Tetrachloroethane	<0.50		0.50		ug/L		06/13/12 18:01		1
Tetrachloroethene	54	H	1.0		ug/L		06/14/12 20:48		2
Toluene	<0.50		0.50		ug/L		06/13/12 18:01		1
trans-1,2-Dichloroethene	<0.50		0.50		ug/L		06/13/12 18:01		1
trans-1,3-Dichloropropene	<0.50		0.50		ug/L		06/13/12 18:01		1
1,2,4-Trichlorobenzene	<0.50		0.50		ug/L		06/13/12 18:01		1
1,1,1-Trichloroethane	30		0.50		ug/L		06/13/12 18:01		1
1,1,2-Trichloroethane	<0.50		0.50		ug/L		06/13/12 18:01		1
Trichloroethene	33		0.50		ug/L		06/13/12 18:01		1
1,2,3-Trichloropropane	<0.50		0.50		ug/L		06/13/12 18:01		1
Vinyl chloride	<0.50		0.50		ug/L		06/13/12 18:01		1
Xylenes, Total	<0.50		0.50		ug/L		06/13/12 18:01		1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	113		70 - 130				06/13/12 18:01		1
4-Bromofluorobenzene	100		70 - 130				06/14/12 20:48		2
1,2-Dichlorobenzene-d4	111		70 - 130				06/13/12 18:01		1
1,2-Dichlorobenzene-d4	99		70 - 130				06/14/12 20:48		2

Client Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Client Sample ID: GSSMW08-053112

Lab Sample ID: 680-79994-7

Matrix: Water

Date Collected: 05/31/12 13:06

Date Received: 06/02/12 09:22

Method: 524.2 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.50		0.50		ug/L			06/14/12 02:04	1
Bromobenzene	<0.50		0.50		ug/L			06/14/12 02:04	1
Bromoform	<0.50		0.50		ug/L			06/14/12 02:04	1
Bromomethane	<1.0 *		1.0		ug/L			06/14/12 02:04	1
Carbon tetrachloride	<0.50		0.50		ug/L			06/14/12 02:04	1
Chlorobenzene	<0.50		0.50		ug/L			06/14/12 02:04	1
Chlorodibromomethane	<0.50		0.50		ug/L			06/14/12 02:04	1
Chloroethane	<1.0		1.0		ug/L			06/14/12 02:04	1
Chloroform	<0.50		0.50		ug/L			06/14/12 02:04	1
Chloromethane	<0.50		0.50		ug/L			06/14/12 02:04	1
2-Chlorotoluene	<0.50		0.50		ug/L			06/14/12 02:04	1
4-Chlorotoluene	<0.50		0.50		ug/L			06/14/12 02:04	1
cis-1,2-Dichloroethene	<0.50		0.50		ug/L			06/14/12 02:04	1
cis-1,3-Dichloropropene	<0.50		0.50		ug/L			06/14/12 02:04	1
Dibromomethane	<0.50		0.50		ug/L			06/14/12 02:04	1
1,2-Dichlorobenzene	<0.50		0.50		ug/L			06/14/12 02:04	1
1,3-Dichlorobenzene	<0.50		0.50		ug/L			06/14/12 02:04	1
1,4-Dichlorobenzene	<0.50		0.50		ug/L			06/14/12 02:04	1
Dichlorobromomethane	<1.0		1.0		ug/L			06/14/12 02:04	1
1,1-Dichloroethane	<0.50		0.50		ug/L			06/14/12 02:04	1
1,2-Dichloroethane	<0.50		0.50		ug/L			06/14/12 02:04	1
1,1-Dichloroethene	<0.50 *		0.50		ug/L			06/14/12 02:04	1
1,2-Dichloropropane	<0.50		0.50		ug/L			06/14/12 02:04	1
1,3-Dichloropropane	<0.50		0.50		ug/L			06/14/12 02:04	1
2,2-Dichloropropane	<0.50		0.50		ug/L			06/14/12 02:04	1
1,1-Dichloropropene	<0.50		0.50		ug/L			06/14/12 02:04	1
Ethylbenzene	<0.50		0.50		ug/L			06/14/12 02:04	1
Methylene Chloride	<0.50		0.50		ug/L			06/14/12 02:04	1
Methyl tert-butyl ether	<0.50		0.50		ug/L			06/14/12 02:04	1
m-Xylene & p-Xylene	<0.50		0.50		ug/L			06/14/12 02:04	1
o-Xylene	<0.50		0.50		ug/L			06/14/12 02:04	1
Styrene	<0.50		0.50		ug/L			06/14/12 02:04	1
1,1,1,2-Tetrachloroethane	<0.50		0.50		ug/L			06/14/12 02:04	1
1,1,2,2-Tetrachloroethane	<0.50		0.50		ug/L			06/14/12 02:04	1
Tetrachloroethene	<0.50		0.50		ug/L			06/14/12 02:04	1
Toluene	<0.50		0.50		ug/L			06/14/12 02:04	1
trans-1,2-Dichloroethene	<0.50		0.50		ug/L			06/14/12 02:04	1
trans-1,3-Dichloropropene	<0.50		0.50		ug/L			06/14/12 02:04	1
1,2,4-Trichlorobenzene	<0.50		0.50		ug/L			06/14/12 02:04	1
1,1,1-Trichloroethane	<0.50		0.50		ug/L			06/14/12 02:04	1
1,1,2-Trichloroethane	<0.50		0.50		ug/L			06/14/12 02:04	1
Trichloroethene	<0.50		0.50		ug/L			06/14/12 02:04	1
1,2,3-Trichloropropane	<0.50		0.50		ug/L			06/14/12 02:04	1
Vinyl chloride	<0.50		0.50		ug/L			06/14/12 02:04	1
Xylenes, Total	<0.50		0.50		ug/L			06/14/12 02:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	105		70 - 130			
1,2-Dichlorobenzene-d4	104		70 - 130			

Client Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Client Sample ID: GSSMW09-053112

Lab Sample ID: 680-79994-8

Matrix: Water

Date Collected: 05/31/12 16:30

Date Received: 06/02/12 09:22

Method: 524.2 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.50		0.50		ug/L			06/14/12 02:27	1
Bromobenzene	<0.50		0.50		ug/L			06/14/12 02:27	1
Bromoform	<0.50		0.50		ug/L			06/14/12 02:27	1
Bromomethane	<1.0 *		1.0		ug/L			06/14/12 02:27	1
Carbon tetrachloride	<0.50		0.50		ug/L			06/14/12 02:27	1
Chlorobenzene	<0.50		0.50		ug/L			06/14/12 02:27	1
Chlorodibromomethane	<0.50		0.50		ug/L			06/14/12 02:27	1
Chloroethane	<1.0		1.0		ug/L			06/14/12 02:27	1
Chloroform	<0.50		0.50		ug/L			06/14/12 02:27	1
Chloromethane	<0.50		0.50		ug/L			06/14/12 02:27	1
2-Chlorotoluene	<0.50		0.50		ug/L			06/14/12 02:27	1
4-Chlorotoluene	<0.50		0.50		ug/L			06/14/12 02:27	1
cis-1,2-Dichloroethene	<0.50		0.50		ug/L			06/14/12 02:27	1
cis-1,3-Dichloropropene	<0.50		0.50		ug/L			06/14/12 02:27	1
Dibromomethane	<0.50		0.50		ug/L			06/14/12 02:27	1
1,2-Dichlorobenzene	<0.50		0.50		ug/L			06/14/12 02:27	1
1,3-Dichlorobenzene	<0.50		0.50		ug/L			06/14/12 02:27	1
1,4-Dichlorobenzene	<0.50		0.50		ug/L			06/14/12 02:27	1
Dichlorobromomethane	<1.0		1.0		ug/L			06/14/12 02:27	1
1,1-Dichloroethane	<0.50		0.50		ug/L			06/14/12 02:27	1
1,2-Dichloroethane	<0.50		0.50		ug/L			06/14/12 02:27	1
1,1-Dichloroethene	<0.50 *		0.50		ug/L			06/14/12 02:27	1
1,2-Dichloropropane	<0.50		0.50		ug/L			06/14/12 02:27	1
1,3-Dichloropropane	<0.50		0.50		ug/L			06/14/12 02:27	1
2,2-Dichloropropane	<0.50		0.50		ug/L			06/14/12 02:27	1
1,1-Dichloropropene	<0.50		0.50		ug/L			06/14/12 02:27	1
Ethylbenzene	<0.50		0.50		ug/L			06/14/12 02:27	1
Methylene Chloride	<0.50		0.50		ug/L			06/14/12 02:27	1
Methyl tert-butyl ether	<0.50		0.50		ug/L			06/14/12 02:27	1
m-Xylene & p-Xylene	<0.50		0.50		ug/L			06/14/12 02:27	1
o-Xylene	<0.50		0.50		ug/L			06/14/12 02:27	1
Styrene	<0.50		0.50		ug/L			06/14/12 02:27	1
1,1,1,2-Tetrachloroethane	<0.50		0.50		ug/L			06/14/12 02:27	1
1,1,2,2-Tetrachloroethane	<0.50		0.50		ug/L			06/14/12 02:27	1
Tetrachloroethene	<0.50		0.50		ug/L			06/14/12 02:27	1
Toluene	<0.50		0.50		ug/L			06/14/12 02:27	1
trans-1,2-Dichloroethene	<0.50		0.50		ug/L			06/14/12 02:27	1
trans-1,3-Dichloropropene	<0.50		0.50		ug/L			06/14/12 02:27	1
1,2,4-Trichlorobenzene	<0.50		0.50		ug/L			06/14/12 02:27	1
1,1,1-Trichloroethane	<0.50		0.50		ug/L			06/14/12 02:27	1
1,1,2-Trichloroethane	<0.50		0.50		ug/L			06/14/12 02:27	1
Trichloroethene	<0.50		0.50		ug/L			06/14/12 02:27	1
1,2,3-Trichloropropane	<0.50		0.50		ug/L			06/14/12 02:27	1
Vinyl chloride	<0.50		0.50		ug/L			06/14/12 02:27	1
Xylenes, Total	<0.50		0.50		ug/L			06/14/12 02:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	114		70 - 130			
1,2-Dichlorobenzene-d4	108		70 - 130			

Client Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Client Sample ID: GSSMW15-053012

Lab Sample ID: 680-79994-9

Matrix: Water

Date Collected: 05/30/12 16:45

Date Received: 06/02/12 09:22

Method: 524.2 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.50		0.50		ug/L			06/13/12 18:28	1
Bromobenzene	<0.50		0.50		ug/L			06/13/12 18:28	1
Bromoform	<0.50		0.50		ug/L			06/13/12 18:28	1
Bromomethane	<1.0		1.0		ug/L			06/13/12 18:28	1
Carbon tetrachloride	<0.50		0.50		ug/L			06/13/12 18:28	1
Chlorobenzene	<0.50		0.50		ug/L			06/13/12 18:28	1
Chlorodibromomethane	<0.50		0.50		ug/L			06/13/12 18:28	1
Chloroethane	<1.0		1.0		ug/L			06/13/12 18:28	1
Chloroform	<0.50		0.50		ug/L			06/13/12 18:28	1
Chloromethane	<0.50		0.50		ug/L			06/13/12 18:28	1
2-Chlorotoluene	<0.50		0.50		ug/L			06/13/12 18:28	1
4-Chlorotoluene	<0.50		0.50		ug/L			06/13/12 18:28	1
cis-1,2-Dichloroethene	20		0.50		ug/L			06/13/12 18:28	1
cis-1,3-Dichloropropene	<0.50		0.50		ug/L			06/13/12 18:28	1
Dibromomethane	<0.50		0.50		ug/L			06/13/12 18:28	1
1,2-Dichlorobenzene	<0.50		0.50		ug/L			06/13/12 18:28	1
1,3-Dichlorobenzene	<0.50		0.50		ug/L			06/13/12 18:28	1
1,4-Dichlorobenzene	<0.50		0.50		ug/L			06/13/12 18:28	1
Dichlorobromomethane	<1.0		1.0		ug/L			06/13/12 18:28	1
1,1-Dichloroethane	5.8		0.50		ug/L			06/13/12 18:28	1
1,2-Dichloroethane	<0.50		0.50		ug/L			06/13/12 18:28	1
1,1-Dichloroethene	<0.50		0.50		ug/L			06/13/12 18:28	1
1,2-Dichloropropane	<0.50		0.50		ug/L			06/13/12 18:28	1
1,3-Dichloropropane	<0.50		0.50		ug/L			06/13/12 18:28	1
2,2-Dichloropropane	<0.50		0.50		ug/L			06/13/12 18:28	1
1,1-Dichloropropene	<0.50		0.50		ug/L			06/13/12 18:28	1
Ethylbenzene	<0.50		0.50		ug/L			06/13/12 18:28	1
Methylene Chloride	<0.50		0.50		ug/L			06/13/12 18:28	1
Methyl tert-butyl ether	<0.50		0.50		ug/L			06/13/12 18:28	1
m-Xylene & p-Xylene	<0.50		0.50		ug/L			06/13/12 18:28	1
o-Xylene	<0.50		0.50		ug/L			06/13/12 18:28	1
Styrene	<0.50		0.50		ug/L			06/13/12 18:28	1
1,1,1,2-Tetrachloroethane	<0.50		0.50		ug/L			06/13/12 18:28	1
1,1,2,2-Tetrachloroethane	<0.50		0.50		ug/L			06/13/12 18:28	1
Tetrachloroethene	9.2		0.50		ug/L			06/13/12 18:28	1
Toluene	<0.50		0.50		ug/L			06/13/12 18:28	1
trans-1,2-Dichloroethene	1.4		0.50		ug/L			06/13/12 18:28	1
trans-1,3-Dichloropropene	<0.50		0.50		ug/L			06/13/12 18:28	1
1,2,4-Trichlorobenzene	<0.50		0.50		ug/L			06/13/12 18:28	1
1,1,1-Trichloroethane	42		0.50		ug/L			06/13/12 18:28	1
1,1,2-Trichloroethane	<0.50		0.50		ug/L			06/13/12 18:28	1
Trichloroethene	43 H		1.0		ug/L			06/14/12 19:42	2
1,2,3-Trichloropropane	<0.50		0.50		ug/L			06/13/12 18:28	1
Vinyl chloride	<0.50		0.50		ug/L			06/13/12 18:28	1
Xylenes, Total	<0.50		0.50		ug/L			06/13/12 18:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	114		70 - 130					06/13/12 18:28	1
4-Bromofluorobenzene	96		70 - 130					06/14/12 19:42	2
1,2-Dichlorobenzene-d4	113		70 - 130					06/13/12 18:28	1
1,2-Dichlorobenzene-d4	94		70 - 130					06/14/12 19:42	2

Client Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Client Sample ID: Dupe 01-053112

Lab Sample ID: 680-79994-10

Date Collected: 05/31/12 00:00

Matrix: Water

Date Received: 06/02/12 09:22

Method: 524.2 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			06/14/12 20:04	2
Bromobenzene	<1.0		1.0		ug/L			06/14/12 20:04	2
Bromoform	<1.0		1.0		ug/L			06/14/12 20:04	2
Bromomethane	<2.0		2.0		ug/L			06/14/12 20:04	2
Carbon tetrachloride	<1.0		1.0		ug/L			06/14/12 20:04	2
Chlorobenzene	<1.0		1.0		ug/L			06/14/12 20:04	2
Chlorodibromomethane	<1.0		1.0		ug/L			06/14/12 20:04	2
Chloroethane	<2.0		2.0		ug/L			06/14/12 20:04	2
Chloroform	<1.0		1.0		ug/L			06/14/12 20:04	2
Chloromethane	<1.0 *		1.0		ug/L			06/14/12 20:04	2
2-Chlorotoluene	<1.0		1.0		ug/L			06/14/12 20:04	2
4-Chlorotoluene	<1.0		1.0		ug/L			06/14/12 20:04	2
cis-1,2-Dichloroethene	<1.0		1.0		ug/L			06/14/12 20:04	2
cis-1,3-Dichloropropene	<1.0		1.0		ug/L			06/14/12 20:04	2
Dibromomethane	<1.0		1.0		ug/L			06/14/12 20:04	2
1,2-Dichlorobenzene	<1.0		1.0		ug/L			06/14/12 20:04	2
1,3-Dichlorobenzene	<1.0		1.0		ug/L			06/14/12 20:04	2
1,4-Dichlorobenzene	<1.0		1.0		ug/L			06/14/12 20:04	2
Dichlorobromomethane	<2.0		2.0		ug/L			06/14/12 20:04	2
1,1-Dichloroethane	<1.0		1.0		ug/L			06/14/12 20:04	2
1,2-Dichloroethane	<1.0		1.0		ug/L			06/14/12 20:04	2
1,1-Dichloroethene	<1.0		1.0		ug/L			06/14/12 20:04	2
1,2-Dichloropropane	<1.0		1.0		ug/L			06/14/12 20:04	2
1,3-Dichloropropane	<1.0		1.0		ug/L			06/14/12 20:04	2
2,2-Dichloropropane	<1.0		1.0		ug/L			06/14/12 20:04	2
1,1-Dichloropropene	<1.0		1.0		ug/L			06/14/12 20:04	2
Ethylbenzene	<1.0		1.0		ug/L			06/14/12 20:04	2
Methylene Chloride	<1.0		1.0		ug/L			06/14/12 20:04	2
Methyl tert-butyl ether	<1.0		1.0		ug/L			06/14/12 20:04	2
m-Xylene & p-Xylene	<1.0		1.0		ug/L			06/14/12 20:04	2
o-Xylene	<1.0		1.0		ug/L			06/14/12 20:04	2
Styrene	<1.0		1.0		ug/L			06/14/12 20:04	2
1,1,1,2-Tetrachloroethane	<1.0		1.0		ug/L			06/14/12 20:04	2
1,1,2,2-Tetrachloroethane	<1.0		1.0		ug/L			06/14/12 20:04	2
Tetrachloroethene	<1.0		1.0		ug/L			06/14/12 20:04	2
Toluene	<1.0		1.0		ug/L			06/14/12 20:04	2
trans-1,2-Dichloroethene	<1.0		1.0		ug/L			06/14/12 20:04	2
trans-1,3-Dichloropropene	<1.0		1.0		ug/L			06/14/12 20:04	2
1,2,4-Trichlorobenzene	<1.0		1.0		ug/L			06/14/12 20:04	2
1,1,1-Trichloroethane	<1.0		1.0		ug/L			06/14/12 20:04	2
1,1,2-Trichloroethane	<1.0		1.0		ug/L			06/14/12 20:04	2
Trichloroethene	<1.0		1.0		ug/L			06/14/12 20:04	2
1,2,3-Trichloropropane	<1.0		1.0		ug/L			06/14/12 20:04	2
Vinyl chloride	<1.0		1.0		ug/L			06/14/12 20:04	2
Xylenes, Total	<1.0		1.0		ug/L			06/14/12 20:04	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	95		70 - 130			
1,2-Dichlorobenzene-d4	91		70 - 130			

Client Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Client Sample ID: Dupe 01-053112

Lab Sample ID: 680-79994-10

Date Collected: 05/31/12 00:00

Matrix: Water

Date Received: 06/02/12 09:22

Method: 524.2 - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.50	H	0.50		ug/L		06/17/12 23:54		1
Bromobenzene	<0.50	H	0.50		ug/L		06/17/12 23:54		1
Bromoform	<0.50	H	0.50		ug/L		06/17/12 23:54		1
Bromomethane	<1.0	H	1.0		ug/L		06/17/12 23:54		1
Carbon tetrachloride	<0.50	H	0.50		ug/L		06/17/12 23:54		1
Chlorobenzene	<0.50	H	0.50		ug/L		06/17/12 23:54		1
Chlorodibromomethane	<0.50	H	0.50		ug/L		06/17/12 23:54		1
Chloroethane	<1.0	H	1.0		ug/L		06/17/12 23:54		1
Chloroform	<0.50	H	0.50		ug/L		06/17/12 23:54		1
Chloromethane	<0.50	H	0.50		ug/L		06/17/12 23:54		1
2-Chlorotoluene	<0.50	H	0.50		ug/L		06/17/12 23:54		1
4-Chlorotoluene	<0.50	H	0.50		ug/L		06/17/12 23:54		1
cis-1,2-Dichloroethene	<0.50	H	0.50		ug/L		06/17/12 23:54		1
cis-1,3-Dichloropropene	<0.50	H	0.50		ug/L		06/17/12 23:54		1
Dibromomethane	<0.50	H	0.50		ug/L		06/17/12 23:54		1
1,2-Dichlorobenzene	<0.50	H	0.50		ug/L		06/17/12 23:54		1
1,3-Dichlorobenzene	<0.50	H	0.50		ug/L		06/17/12 23:54		1
1,4-Dichlorobenzene	<0.50	H	0.50		ug/L		06/17/12 23:54		1
Dichlorobromomethane	<1.0	H	1.0		ug/L		06/17/12 23:54		1
1,1-Dichloroethane	<0.50	H	0.50		ug/L		06/17/12 23:54		1
1,2-Dichloroethane	<0.50	H	0.50		ug/L		06/17/12 23:54		1
1,1-Dichloroethene	<0.50	H	0.50		ug/L		06/17/12 23:54		1
1,2-Dichloropropane	<0.50	H	0.50		ug/L		06/17/12 23:54		1
1,3-Dichloropropane	<0.50	H	0.50		ug/L		06/17/12 23:54		1
2,2-Dichloropropane	<0.50	H	0.50		ug/L		06/17/12 23:54		1
1,1-Dichloropropene	<0.50	H	0.50		ug/L		06/17/12 23:54		1
Ethylbenzene	<0.50	H	0.50		ug/L		06/17/12 23:54		1
Methylene Chloride	<0.50	H	0.50		ug/L		06/17/12 23:54		1
Methyl tert-butyl ether	<0.50	H	0.50		ug/L		06/17/12 23:54		1
m-Xylene & p-Xylene	<0.50	H	0.50		ug/L		06/17/12 23:54		1
o-Xylene	<0.50	H	0.50		ug/L		06/17/12 23:54		1
Styrene	<0.50	H	0.50		ug/L		06/17/12 23:54		1
1,1,1,2-Tetrachloroethane	<0.50	H	0.50		ug/L		06/17/12 23:54		1
1,1,2,2-Tetrachloroethane	<0.50	H	0.50		ug/L		06/17/12 23:54		1
Tetrachloroethene	<0.50	H	0.50		ug/L		06/17/12 23:54		1
Toluene	<0.50	H	0.50		ug/L		06/17/12 23:54		1
trans-1,2-Dichloroethene	<0.50	H	0.50		ug/L		06/17/12 23:54		1
trans-1,3-Dichloropropene	<0.50	H	0.50		ug/L		06/17/12 23:54		1
1,2,4-Trichlorobenzene	<0.50	H	0.50		ug/L		06/17/12 23:54		1
1,1,1-Trichloroethane	<0.50	H	0.50		ug/L		06/17/12 23:54		1
1,1,2-Trichloroethane	<0.50	H	0.50		ug/L		06/17/12 23:54		1
Trichloroethene	<0.50	H	0.50		ug/L		06/17/12 23:54		1
1,2,3-Trichloropropane	<0.50	H	0.50		ug/L		06/17/12 23:54		1
Vinyl chloride	<0.50	H	0.50		ug/L		06/17/12 23:54		1
Xylenes, Total	<0.50	H	0.50		ug/L		06/17/12 23:54		1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		70 - 130				06/17/12 23:54		1
1,2-Dichlorobenzene-d4	98		70 - 130				06/17/12 23:54		1

Client Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Client Sample ID: TB-053012

Date Collected: 05/30/12 00:00

Date Received: 06/02/12 09:22

Lab Sample ID: 680-79994-11

Matrix: Water

Method: 524.2 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.50		0.50		ug/L		06/13/12 18:55		1
Bromobenzene	<0.50		0.50		ug/L		06/13/12 18:55		1
Bromoform	<0.50		0.50		ug/L		06/13/12 18:55		1
Bromomethane	<1.0		1.0		ug/L		06/13/12 18:55		1
Carbon tetrachloride	<0.50		0.50		ug/L		06/13/12 18:55		1
Chlorobenzene	<0.50		0.50		ug/L		06/13/12 18:55		1
Chlorodibromomethane	<0.50		0.50		ug/L		06/13/12 18:55		1
Chloroethane	<1.0		1.0		ug/L		06/13/12 18:55		1
Chloroform	<0.50		0.50		ug/L		06/13/12 18:55		1
Chloromethane	<0.50		0.50		ug/L		06/13/12 18:55		1
2-Chlorotoluene	<0.50		0.50		ug/L		06/13/12 18:55		1
4-Chlorotoluene	<0.50		0.50		ug/L		06/13/12 18:55		1
cis-1,2-Dichloroethene	<0.50		0.50		ug/L		06/13/12 18:55		1
cis-1,3-Dichloropropene	<0.50		0.50		ug/L		06/13/12 18:55		1
Dibromomethane	<0.50		0.50		ug/L		06/13/12 18:55		1
1,2-Dichlorobenzene	<0.50		0.50		ug/L		06/13/12 18:55		1
1,3-Dichlorobenzene	<0.50		0.50		ug/L		06/13/12 18:55		1
1,4-Dichlorobenzene	<0.50		0.50		ug/L		06/13/12 18:55		1
Dichlorobromomethane	<1.0		1.0		ug/L		06/13/12 18:55		1
1,1-Dichloroethane	<0.50		0.50		ug/L		06/13/12 18:55		1
1,2-Dichloroethane	<0.50		0.50		ug/L		06/13/12 18:55		1
1,1-Dichloroethene	<0.50		0.50		ug/L		06/13/12 18:55		1
1,2-Dichloropropane	<0.50		0.50		ug/L		06/13/12 18:55		1
1,3-Dichloropropane	<0.50		0.50		ug/L		06/13/12 18:55		1
2,2-Dichloropropane	<0.50		0.50		ug/L		06/13/12 18:55		1
1,1-Dichloropropene	<0.50		0.50		ug/L		06/13/12 18:55		1
Ethylbenzene	<0.50		0.50		ug/L		06/13/12 18:55		1
Methylene Chloride	<0.50		0.50		ug/L		06/13/12 18:55		1
Methyl tert-butyl ether	<0.50		0.50		ug/L		06/13/12 18:55		1
m-Xylene & p-Xylene	<0.50		0.50		ug/L		06/13/12 18:55		1
o-Xylene	<0.50		0.50		ug/L		06/13/12 18:55		1
Styrene	<0.50		0.50		ug/L		06/13/12 18:55		1
1,1,1,2-Tetrachloroethane	<0.50		0.50		ug/L		06/13/12 18:55		1
1,1,2,2-Tetrachloroethane	<0.50		0.50		ug/L		06/13/12 18:55		1
Tetrachloroethene	<0.50		0.50		ug/L		06/13/12 18:55		1
Toluene	<0.50		0.50		ug/L		06/13/12 18:55		1
trans-1,2-Dichloroethene	<0.50		0.50		ug/L		06/13/12 18:55		1
trans-1,3-Dichloropropene	<0.50		0.50		ug/L		06/13/12 18:55		1
1,2,4-Trichlorobenzene	<0.50		0.50		ug/L		06/13/12 18:55		1
1,1,1-Trichloroethane	<0.50		0.50		ug/L		06/13/12 18:55		1
1,1,2-Trichloroethane	<0.50		0.50		ug/L		06/13/12 18:55		1
Trichloroethene	<0.50		0.50		ug/L		06/13/12 18:55		1
1,2,3-Trichloropropane	<0.50		0.50		ug/L		06/13/12 18:55		1
Vinyl chloride	<0.50		0.50		ug/L		06/13/12 18:55		1
Xylenes, Total	<0.50		0.50		ug/L		06/13/12 18:55		1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	116		70 - 130		06/13/12 18:55	1
1,2-Dichlorobenzene-d4	111		70 - 130		06/13/12 18:55	1

Client Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Client Sample ID: EB-060112

Date Collected: 06/01/12 17:00

Date Received: 06/02/12 09:22

Lab Sample ID: 680-79994-12

Matrix: Water

Method: 524.2 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.50		0.50		ug/L			06/14/12 01:42	1
Bromobenzene	<0.50		0.50		ug/L			06/14/12 01:42	1
Bromoform	<0.50		0.50		ug/L			06/14/12 01:42	1
Bromomethane	<1.0 *		1.0		ug/L			06/14/12 01:42	1
Carbon tetrachloride	<0.50		0.50		ug/L			06/14/12 01:42	1
Chlorobenzene	<0.50		0.50		ug/L			06/14/12 01:42	1
Chlorodibromomethane	<0.50		0.50		ug/L			06/14/12 01:42	1
Chloroethane	<1.0		1.0		ug/L			06/14/12 01:42	1
Chloroform	<0.50		0.50		ug/L			06/14/12 01:42	1
Chloromethane	<0.50		0.50		ug/L			06/14/12 01:42	1
2-Chlorotoluene	<0.50		0.50		ug/L			06/14/12 01:42	1
4-Chlorotoluene	<0.50		0.50		ug/L			06/14/12 01:42	1
cis-1,2-Dichloroethene	<0.50		0.50		ug/L			06/14/12 01:42	1
cis-1,3-Dichloropropene	<0.50		0.50		ug/L			06/14/12 01:42	1
Dibromomethane	<0.50		0.50		ug/L			06/14/12 01:42	1
1,2-Dichlorobenzene	<0.50		0.50		ug/L			06/14/12 01:42	1
1,3-Dichlorobenzene	<0.50		0.50		ug/L			06/14/12 01:42	1
1,4-Dichlorobenzene	<0.50		0.50		ug/L			06/14/12 01:42	1
Dichlorobromomethane	<1.0		1.0		ug/L			06/14/12 01:42	1
1,1-Dichloroethane	<0.50		0.50		ug/L			06/14/12 01:42	1
1,2-Dichloroethane	<0.50		0.50		ug/L			06/14/12 01:42	1
1,1-Dichloroethene	<0.50 *		0.50		ug/L			06/14/12 01:42	1
1,2-Dichloropropane	<0.50		0.50		ug/L			06/14/12 01:42	1
1,3-Dichloropropane	<0.50		0.50		ug/L			06/14/12 01:42	1
2,2-Dichloropropane	<0.50		0.50		ug/L			06/14/12 01:42	1
1,1-Dichloropropene	<0.50		0.50		ug/L			06/14/12 01:42	1
Ethylbenzene	<0.50		0.50		ug/L			06/14/12 01:42	1
Methylene Chloride	<0.50		0.50		ug/L			06/14/12 01:42	1
Methyl tert-butyl ether	<0.50		0.50		ug/L			06/14/12 01:42	1
m-Xylene & p-Xylene	<0.50		0.50		ug/L			06/14/12 01:42	1
o-Xylene	<0.50		0.50		ug/L			06/14/12 01:42	1
Styrene	<0.50		0.50		ug/L			06/14/12 01:42	1
1,1,1,2-Tetrachloroethane	<0.50		0.50		ug/L			06/14/12 01:42	1
1,1,2,2-Tetrachloroethane	<0.50		0.50		ug/L			06/14/12 01:42	1
Tetrachloroethene	<0.50		0.50		ug/L			06/14/12 01:42	1
Toluene	<0.50		0.50		ug/L			06/14/12 01:42	1
trans-1,2-Dichloroethene	<0.50		0.50		ug/L			06/14/12 01:42	1
trans-1,3-Dichloropropene	<0.50		0.50		ug/L			06/14/12 01:42	1
1,2,4-Trichlorobenzene	<0.50		0.50		ug/L			06/14/12 01:42	1
1,1,1-Trichloroethane	<0.50		0.50		ug/L			06/14/12 01:42	1
1,1,2-Trichloroethane	<0.50		0.50		ug/L			06/14/12 01:42	1
Trichloroethene	<0.50		0.50		ug/L			06/14/12 01:42	1
1,2,3-Trichloropropane	<0.50		0.50		ug/L			06/14/12 01:42	1
Vinyl chloride	<0.50		0.50		ug/L			06/14/12 01:42	1
Xylenes, Total	<0.50		0.50		ug/L			06/14/12 01:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	120		70 - 130		06/14/12 01:42	1
1,2-Dichlorobenzene-d4	115		70 - 130		06/14/12 01:42	1

Client Sample Results

Client: AECOM, Inc.
Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Client Sample ID: MW06-060112

Lab Sample ID: 680-79994-13

Date Collected: 06/01/12 10:35

Matrix: Water

Date Received: 06/02/12 09:22

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	<2.0		2.0		ug/L			06/06/12 11:06	1

Surrogate Summary

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Method: 524.2 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BFB (70-130)	12DCB (70-130)
680-79994-1	MW02D-053012	112	107
680-79994-1	MW02D-053012	102	100
680-79994-2	MW04D-053012	115	113
680-79994-2	MW04D-053012	99	97
680-79994-3	MW06-060112	112	109
680-79994-3	MW06-060112	102	108
680-79994-4	MW07D-060112	115	113
680-79994-5	MW08-053112	115	110
680-79994-6	MWP1-053012	113	111
680-79994-6	MWP1-053012	100	99
680-79994-7	GSSMW08-053112	105	104
680-79994-8	GSSMW09-053112	114	108
680-79994-9	GSSMW15-053012	114	113
680-79994-9	GSSMW15-053012	96	94
680-79994-10	Dupe 01-053112	95	91
680-79994-10 - RA	Dupe 01-053112	101	98
680-79994-11	TB-053012	116	111
680-79994-12	EB-060112	120	115
LCS 680-239863/3	Lab Control Sample	120	115
LCS 680-240176/3	Lab Control Sample	104	98
LCS 680-240294/3	Lab Control Sample	103	101
LCS 680-240306/9	Lab Control Sample	128	123
LCS 680-240452/3	Lab Control Sample	127	128
LCS 680-240453/3	Lab Control Sample	126	124
LCS 680-240633/3	Lab Control Sample	110	114
LCSD 680-239863/4	Lab Control Sample Dup	118	116
LCSD 680-240176/4	Lab Control Sample Dup	104	101
LCSD 680-240294/4	Lab Control Sample Dup	102	102
LCSD 680-240306/10	Lab Control Sample Dup	122	121
LCSD 680-240452/4	Lab Control Sample Dup	127	128
LCSD 680-240453/4	Lab Control Sample Dup	121	124
LCSD 680-240633/4	Lab Control Sample Dup	108	115
MB 680-239863/6	Method Blank	117	117
MB 680-240176/6	Method Blank	98	92
MB 680-240294/6	Method Blank	98	95
MB 680-240306/12	Method Blank	120	114
MB 680-240452/6	Method Blank	122	120
MB 680-240453/6	Method Blank	115	114
MB 680-240633/6	Method Blank	101	102

Surrogate Legend

BFB = 4-Bromofluorobenzene

12DCB = 1,2-Dichlorobenzene-d4

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Method: 524.2 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-239863/6

Matrix: Water

Analysis Batch: 239863

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	<0.50		0.50		ug/L			06/10/12 16:56	1
Bromobenzene	<0.50		0.50		ug/L			06/10/12 16:56	1
Bromoform	<0.50		0.50		ug/L			06/10/12 16:56	1
Bromomethane	<1.0		1.0		ug/L			06/10/12 16:56	1
Carbon tetrachloride	<0.50		0.50		ug/L			06/10/12 16:56	1
Chlorobenzene	<0.50		0.50		ug/L			06/10/12 16:56	1
Chlorodibromomethane	<0.50		0.50		ug/L			06/10/12 16:56	1
Chloroethane	<1.0		1.0		ug/L			06/10/12 16:56	1
Chloroform	<0.50		0.50		ug/L			06/10/12 16:56	1
Chloromethane	<0.50		0.50		ug/L			06/10/12 16:56	1
2-Chlorotoluene	<0.50		0.50		ug/L			06/10/12 16:56	1
4-Chlorotoluene	<0.50		0.50		ug/L			06/10/12 16:56	1
cis-1,2-Dichloroethene	<0.50		0.50		ug/L			06/10/12 16:56	1
cis-1,3-Dichloropropene	<0.50		0.50		ug/L			06/10/12 16:56	1
Dibromomethane	<0.50		0.50		ug/L			06/10/12 16:56	1
1,2-Dichlorobenzene	<0.50		0.50		ug/L			06/10/12 16:56	1
1,3-Dichlorobenzene	<0.50		0.50		ug/L			06/10/12 16:56	1
1,4-Dichlorobenzene	<0.50		0.50		ug/L			06/10/12 16:56	1
Dichlorobromomethane	<1.0		1.0		ug/L			06/10/12 16:56	1
1,1-Dichloroethane	<0.50		0.50		ug/L			06/10/12 16:56	1
1,2-Dichloroethane	<0.50		0.50		ug/L			06/10/12 16:56	1
1,1-Dichloroethene	<0.50		0.50		ug/L			06/10/12 16:56	1
1,2-Dichloropropane	<0.50		0.50		ug/L			06/10/12 16:56	1
1,3-Dichloropropane	<0.50		0.50		ug/L			06/10/12 16:56	1
2,2-Dichloropropane	<0.50		0.50		ug/L			06/10/12 16:56	1
1,1-Dichloropropene	<0.50		0.50		ug/L			06/10/12 16:56	1
Ethylbenzene	<0.50		0.50		ug/L			06/10/12 16:56	1
Methylene Chloride	<0.50		0.50		ug/L			06/10/12 16:56	1
Methyl tert-butyl ether	<0.50		0.50		ug/L			06/10/12 16:56	1
m-Xylene & p-Xylene	<0.50		0.50		ug/L			06/10/12 16:56	1
o-Xylene	<0.50		0.50		ug/L			06/10/12 16:56	1
Styrene	<0.50		0.50		ug/L			06/10/12 16:56	1
1,1,1,2-Tetrachloroethane	<0.50		0.50		ug/L			06/10/12 16:56	1
1,1,2,2-Tetrachloroethane	<0.50		0.50		ug/L			06/10/12 16:56	1
Tetrachloroethene	<0.50		0.50		ug/L			06/10/12 16:56	1
Toluene	<0.50		0.50		ug/L			06/10/12 16:56	1
trans-1,2-Dichloroethene	<0.50		0.50		ug/L			06/10/12 16:56	1
trans-1,3-Dichloropropene	<0.50		0.50		ug/L			06/10/12 16:56	1
1,2,4-Trichlorobenzene	<0.50		0.50		ug/L			06/10/12 16:56	1
1,1,1-Trichloroethane	<0.50		0.50		ug/L			06/10/12 16:56	1
1,1,2-Trichloroethane	<0.50		0.50		ug/L			06/10/12 16:56	1
Trichloroethene	<0.50		0.50		ug/L			06/10/12 16:56	1
1,2,3-Trichloropropane	<0.50		0.50		ug/L			06/10/12 16:56	1
Vinyl chloride	<0.50		0.50		ug/L			06/10/12 16:56	1
Xylenes, Total	<0.50		0.50		ug/L			06/10/12 16:56	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	117		70 - 130			1
1,2-Dichlorobenzene-d4	117		70 - 130			1

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-239863/3

Matrix: Water

Analysis Batch: 239863

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	20.0	22.9		ug/L		114	70 - 130
Bromobenzene	20.0	22.4		ug/L		112	70 - 130
Bromoform	20.0	18.4		ug/L		92	70 - 130
Bromomethane	20.0	20.0		ug/L		100	70 - 130
Carbon tetrachloride	20.0	17.8		ug/L		89	70 - 130
Chlorobenzene	20.0	23.8		ug/L		119	70 - 130
Chlorodibromomethane	20.0	19.7		ug/L		99	70 - 130
Chloroethane	20.0	20.6		ug/L		103	70 - 130
Chloroform	20.0	18.7		ug/L		94	70 - 130
Chloromethane	20.0	18.0		ug/L		90	70 - 130
2-Chlorotoluene	20.0	22.0		ug/L		110	70 - 130
4-Chlorotoluene	20.0	21.2		ug/L		106	70 - 130
cis-1,2-Dichloroethene	20.0	21.6		ug/L		108	70 - 130
cis-1,3-Dichloropropene	20.0	23.6		ug/L		118	70 - 130
Dibromomethane	20.0	18.2		ug/L		91	70 - 130
1,2-Dichlorobenzene	20.0	21.0		ug/L		105	70 - 130
1,3-Dichlorobenzene	20.0	21.8		ug/L		109	70 - 130
1,4-Dichlorobenzene	20.0	21.7		ug/L		109	70 - 130
Dichlorobromomethane	20.0	19.0		ug/L		95	70 - 130
1,1-Dichloroethane	20.0	20.0		ug/L		100	70 - 130
1,2-Dichloroethane	20.0	14.6		ug/L		73	70 - 130
1,1-Dichloroethene	20.0	21.0		ug/L		105	70 - 130
1,2-Dichloropropene	20.0	23.5		ug/L		118	70 - 130
1,3-Dichloropropene	20.0	19.9		ug/L		100	70 - 130
2,2-Dichloropropene	20.0	19.3		ug/L		96	70 - 130
1,1-Dichloropropene	20.0	21.6		ug/L		108	70 - 130
Ethylbenzene	20.0	24.1		ug/L		121	70 - 130
Methylene Chloride	20.0	21.7		ug/L		108	70 - 130
Methyl tert-butyl ether	16.0	15.1		ug/L		95	70 - 130
m-Xylene & p-Xylene	40.0	49.1		ug/L		123	70 - 130
o-Xylene	20.0	24.4		ug/L		122	70 - 130
Styrene	20.0	25.3		ug/L		126	70 - 130
1,1,1,2-Tetrachloroethane	20.0	21.0		ug/L		105	70 - 130
1,1,2,2-Tetrachloroethane	20.0	19.4		ug/L		97	70 - 130
Tetrachloroethene	20.0	21.8		ug/L		109	70 - 130
Toluene	20.0	24.4		ug/L		122	70 - 130
trans-1,2-Dichloroethene	20.0	22.0		ug/L		110	70 - 130
trans-1,3-Dichloropropene	20.0	20.0		ug/L		100	70 - 130
1,2,4-Trichlorobenzene	20.0	23.3		ug/L		117	70 - 130
1,1,1-Trichloroethane	20.0	17.7		ug/L		88	70 - 130
1,1,2-Trichloroethane	20.0	20.7		ug/L		104	70 - 130
Trichloroethene	20.0	21.3		ug/L		106	70 - 130
1,2,3-Trichloropropane	20.0	15.8		ug/L		79	70 - 130
Vinyl chloride	20.0	20.9		ug/L		104	70 - 130
Xylenes, Total	60.0	73.5		ug/L		122	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	120		70 - 130
1,2-Dichlorobenzene-d4	115		70 - 130

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-239863/4

Matrix: Water

Analysis Batch: 239863

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Benzene	20.0	23.5		ug/L	117	70 - 130	2	30	
Bromobenzene	20.0	22.3		ug/L	111	70 - 130	1	30	
Bromoform	20.0	18.1		ug/L	90	70 - 130	2	30	
Bromomethane	20.0	21.4		ug/L	107	70 - 130	7	30	
Carbon tetrachloride	20.0	18.0		ug/L	90	70 - 130	1	30	
Chlorobenzene	20.0	24.1		ug/L	120	70 - 130	1	30	
Chlorodibromomethane	20.0	19.5		ug/L	97	70 - 130	1	30	
Chloroethane	20.0	21.4		ug/L	107	70 - 130	4	30	
Chloroform	20.0	19.0		ug/L	95	70 - 130	1	30	
Chloromethane	20.0	18.8		ug/L	94	70 - 130	4	30	
2-Chlorotoluene	20.0	22.1		ug/L	111	70 - 130	1	30	
4-Chlorotoluene	20.0	21.5		ug/L	107	70 - 130	1	30	
cis-1,2-Dichloroethene	20.0	22.5		ug/L	112	70 - 130	4	30	
cis-1,3-Dichloropropene	20.0	23.4		ug/L	117	70 - 130	1	30	
Dibromomethane	20.0	18.1		ug/L	91	70 - 130	0	30	
1,2-Dichlorobenzene	20.0	20.8		ug/L	104	70 - 130	1	30	
1,3-Dichlorobenzene	20.0	21.8		ug/L	109	70 - 130	0	30	
1,4-Dichlorobenzene	20.0	21.6		ug/L	108	70 - 130	1	30	
Dichlorobromomethane	20.0	18.9		ug/L	95	70 - 130	0	30	
1,1-Dichloroethane	20.0	20.6		ug/L	103	70 - 130	3	30	
1,2-Dichloroethane	20.0	14.7		ug/L	73	70 - 130	1	30	
1,1-Dichloroethene	20.0	25.7		ug/L	129	70 - 130	20	30	
1,2-Dichloropropene	20.0	23.6		ug/L	118	70 - 130	0	30	
1,3-Dichloropropene	20.0	19.9		ug/L	100	70 - 130	0	30	
2,2-Dichloropropene	20.0	19.2		ug/L	96	70 - 130	0	30	
1,1-Dichloropropene	20.0	22.6		ug/L	113	70 - 130	5	30	
Ethylbenzene	20.0	24.2		ug/L	121	70 - 130	0	30	
Methylene Chloride	20.0	26.5 *		ug/L	133	70 - 130	20	30	
Methyl tert-butyl ether	16.0	16.6		ug/L	104	70 - 130	9	30	
m-Xylene & p-Xylene	40.0	50.5		ug/L	126	70 - 130	3	30	
o-Xylene	20.0	24.6		ug/L	123	70 - 130	1	30	
Styrene	20.0	25.6		ug/L	128	70 - 130	1	30	
1,1,1,2-Tetrachloroethane	20.0	21.2		ug/L	106	70 - 130	1	30	
1,1,2,2-Tetrachloroethane	20.0	19.3		ug/L	96	70 - 130	1	30	
Tetrachloroethene	20.0	22.6		ug/L	113	70 - 130	3	30	
Toluene	20.0	24.5		ug/L	123	70 - 130	1	30	
trans-1,2-Dichloroethene	20.0	25.1		ug/L	126	70 - 130	13	30	
trans-1,3-Dichloropropene	20.0	20.6		ug/L	103	70 - 130	3	30	
1,2,4-Trichlorobenzene	20.0	23.0		ug/L	115	70 - 130	1	30	
1,1,1-Trichloroethane	20.0	17.9		ug/L	90	70 - 130	1	30	
1,1,2-Trichloroethane	20.0	20.4		ug/L	102	70 - 130	2	30	
Trichloroethene	20.0	21.2		ug/L	106	70 - 130	0	30	
1,2,3-Trichloropropane	20.0	15.8		ug/L	79	70 - 130	0	30	
Vinyl chloride	20.0	21.7		ug/L	108	70 - 130	4	30	
Xylenes, Total	60.0	75.1		ug/L	125	70 - 130	2	30	

Surrogate	LCSD	LCSD	
	%Recovery	Qualifier	Limits
4-Bromofluorobenzene	118		70 - 130
1,2-Dichlorobenzene-d4	116		70 - 130

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 680-240176/6

Matrix: Water

Analysis Batch: 240176

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	<0.50		0.50		ug/L			06/12/12 17:09	1
Bromobenzene	<0.50		0.50		ug/L			06/12/12 17:09	1
Bromoform	<0.50		0.50		ug/L			06/12/12 17:09	1
Bromomethane	<1.0		1.0		ug/L			06/12/12 17:09	1
Carbon tetrachloride	<0.50		0.50		ug/L			06/12/12 17:09	1
Chlorobenzene	<0.50		0.50		ug/L			06/12/12 17:09	1
Chlorodibromomethane	<0.50		0.50		ug/L			06/12/12 17:09	1
Chloroethane	<1.0		1.0		ug/L			06/12/12 17:09	1
Chloroform	<0.50		0.50		ug/L			06/12/12 17:09	1
Chloromethane	<0.50		0.50		ug/L			06/12/12 17:09	1
2-Chlorotoluene	<0.50		0.50		ug/L			06/12/12 17:09	1
4-Chlorotoluene	<0.50		0.50		ug/L			06/12/12 17:09	1
cis-1,2-Dichloroethene	<0.50		0.50		ug/L			06/12/12 17:09	1
cis-1,3-Dichloropropene	<0.50		0.50		ug/L			06/12/12 17:09	1
Dibromomethane	<0.50		0.50		ug/L			06/12/12 17:09	1
1,2-Dichlorobenzene	<0.50		0.50		ug/L			06/12/12 17:09	1
1,3-Dichlorobenzene	<0.50		0.50		ug/L			06/12/12 17:09	1
1,4-Dichlorobenzene	<0.50		0.50		ug/L			06/12/12 17:09	1
Dichlorobromomethane	<1.0		1.0		ug/L			06/12/12 17:09	1
1,1-Dichloroethane	<0.50		0.50		ug/L			06/12/12 17:09	1
1,2-Dichloroethane	<0.50		0.50		ug/L			06/12/12 17:09	1
1,1-Dichloroethene	<0.50		0.50		ug/L			06/12/12 17:09	1
1,2-Dichloropropane	<0.50		0.50		ug/L			06/12/12 17:09	1
1,3-Dichloropropane	<0.50		0.50		ug/L			06/12/12 17:09	1
2,2-Dichloropropane	<0.50		0.50		ug/L			06/12/12 17:09	1
1,1-Dichloropropene	<0.50		0.50		ug/L			06/12/12 17:09	1
Ethylbenzene	<0.50		0.50		ug/L			06/12/12 17:09	1
Methylene Chloride	<0.50		0.50		ug/L			06/12/12 17:09	1
Methyl tert-butyl ether	<0.50		0.50		ug/L			06/12/12 17:09	1
m-Xylene & p-Xylene	<0.50		0.50		ug/L			06/12/12 17:09	1
o-Xylene	<0.50		0.50		ug/L			06/12/12 17:09	1
Styrene	<0.50		0.50		ug/L			06/12/12 17:09	1
1,1,1,2-Tetrachloroethane	<0.50		0.50		ug/L			06/12/12 17:09	1
1,1,2,2-Tetrachloroethane	<0.50		0.50		ug/L			06/12/12 17:09	1
Tetrachloroethene	<0.50		0.50		ug/L			06/12/12 17:09	1
Toluene	<0.50		0.50		ug/L			06/12/12 17:09	1
trans-1,2-Dichloroethene	<0.50		0.50		ug/L			06/12/12 17:09	1
trans-1,3-Dichloropropene	<0.50		0.50		ug/L			06/12/12 17:09	1
1,2,4-Trichlorobenzene	<0.50		0.50		ug/L			06/12/12 17:09	1
1,1,1-Trichloroethane	<0.50		0.50		ug/L			06/12/12 17:09	1
1,1,2-Trichloroethane	<0.50		0.50		ug/L			06/12/12 17:09	1
Trichloroethene	<0.50		0.50		ug/L			06/12/12 17:09	1
1,2,3-Trichloropropane	<0.50		0.50		ug/L			06/12/12 17:09	1
Vinyl chloride	<0.50		0.50		ug/L			06/12/12 17:09	1
Xylenes, Total	<0.50		0.50		ug/L			06/12/12 17:09	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	98		70 - 130			1
1,2-Dichlorobenzene-d4	92		70 - 130			1

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-240176/3

Matrix: Water

Analysis Batch: 240176

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	Limits
Benzene	20.0	19.0		ug/L	95	70 - 130		
Bromobenzene	20.0	18.9		ug/L	95	70 - 130		
Bromoform	20.0	19.4		ug/L	97	70 - 130		
Bromomethane	20.0	19.6		ug/L	98	70 - 130		
Carbon tetrachloride	20.0	20.0		ug/L	100	70 - 130		
Chlorobenzene	20.0	19.2		ug/L	96	70 - 130		
Chlorodibromomethane	20.0	20.8		ug/L	104	70 - 130		
Chloroethane	20.0	18.8		ug/L	94	70 - 130		
Chloroform	20.0	18.5		ug/L	93	70 - 130		
Chloromethane	20.0	16.7		ug/L	83	70 - 130		
2-Chlorotoluene	20.0	19.4		ug/L	97	70 - 130		
4-Chlorotoluene	20.0	19.7		ug/L	99	70 - 130		
cis-1,2-Dichloroethene	20.0	18.3		ug/L	91	70 - 130		
cis-1,3-Dichloropropene	20.0	20.5		ug/L	103	70 - 130		
Dibromomethane	20.0	19.0		ug/L	95	70 - 130		
1,2-Dichlorobenzene	20.0	19.1		ug/L	96	70 - 130		
1,3-Dichlorobenzene	20.0	19.6		ug/L	98	70 - 130		
1,4-Dichlorobenzene	20.0	19.6		ug/L	98	70 - 130		
Dichlorobromomethane	20.0	19.9		ug/L	99	70 - 130		
1,1-Dichloroethane	20.0	19.5		ug/L	97	70 - 130		
1,2-Dichloroethane	20.0	18.4		ug/L	92	70 - 130		
1,1-Dichloroethene	20.0	19.0		ug/L	95	70 - 130		
1,2-Dichloropropene	20.0	19.4		ug/L	97	70 - 130		
1,3-Dichloropropene	20.0	18.4		ug/L	92	70 - 130		
2,2-Dichloropropane	20.0	20.1		ug/L	101	70 - 130		
1,1-Dichloropropene	20.0	19.5		ug/L	97	70 - 130		
Ethylbenzene	20.0	19.8		ug/L	99	70 - 130		
Methylene Chloride	20.0	18.5		ug/L	93	70 - 130		
Methyl tert-butyl ether	16.0	16.0		ug/L	100	70 - 130		
m-Xylene & p-Xylene	40.0	39.5		ug/L	99	70 - 130		
o-Xylene	20.0	19.6		ug/L	98	70 - 130		
Styrene	20.0	21.1		ug/L	105	70 - 130		
1,1,1,2-Tetrachloroethane	20.0	20.0		ug/L	100	70 - 130		
1,1,2,2-Tetrachloroethane	20.0	18.4		ug/L	92	70 - 130		
Tetrachloroethene	20.0	18.8		ug/L	94	70 - 130		
Toluene	20.0	19.9		ug/L	99	70 - 130		
trans-1,2-Dichloroethene	20.0	18.1		ug/L	91	70 - 130		
trans-1,3-Dichloropropene	20.0	20.5		ug/L	103	70 - 130		
1,2,4-Trichlorobenzene	20.0	20.5		ug/L	102	70 - 130		
1,1,1-Trichloroethane	20.0	19.6		ug/L	98	70 - 130		
1,1,2-Trichloroethane	20.0	19.4		ug/L	97	70 - 130		
Trichloroethene	20.0	18.9		ug/L	94	70 - 130		
1,2,3-Trichloropropane	20.0	19.1		ug/L	95	70 - 130		
Vinyl chloride	20.0	19.3		ug/L	96	70 - 130		
Xylenes, Total	60.0	59.1		ug/L	98	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	104		70 - 130
1,2-Dichlorobenzene-d4	98		70 - 130

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-240176/4

Matrix: Water

Analysis Batch: 240176

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.	RPD	RPD Limit
Benzene	20.0	19.8		ug/L	99	70 - 130		4	30
Bromobenzene	20.0	19.4		ug/L	97	70 - 130		3	30
Bromoform	20.0	20.4		ug/L	102	70 - 130		5	30
Bromomethane	20.0	22.2		ug/L	111	70 - 130		13	30
Carbon tetrachloride	20.0	21.1		ug/L	105	70 - 130		5	30
Chlorobenzene	20.0	19.8		ug/L	99	70 - 130		3	30
Chlorodibromomethane	20.0	21.3		ug/L	107	70 - 130		2	30
Chloroethane	20.0	19.9		ug/L	100	70 - 130		6	30
Chloroform	20.0	19.1		ug/L	95	70 - 130		3	30
Chloromethane	20.0	17.0		ug/L	85	70 - 130		2	30
2-Chlorotoluene	20.0	20.1		ug/L	100	70 - 130		3	30
4-Chlorotoluene	20.0	20.4		ug/L	102	70 - 130		3	30
cis-1,2-Dichloroethene	20.0	19.4		ug/L	97	70 - 130		6	30
cis-1,3-Dichloropropene	20.0	21.4		ug/L	107	70 - 130		4	30
Dibromomethane	20.0	19.6		ug/L	98	70 - 130		3	30
1,2-Dichlorobenzene	20.0	19.7		ug/L	99	70 - 130		3	30
1,3-Dichlorobenzene	20.0	20.3		ug/L	101	70 - 130		3	30
1,4-Dichlorobenzene	20.0	20.3		ug/L	102	70 - 130		4	30
Dichlorobromomethane	20.0	20.3		ug/L	102	70 - 130		2	30
1,1-Dichloroethane	20.0	20.2		ug/L	101	70 - 130		4	30
1,2-Dichloroethane	20.0	19.0		ug/L	95	70 - 130		3	30
1,1-Dichloroethene	20.0	20.1		ug/L	100	70 - 130		6	30
1,2-Dichloropropane	20.0	19.8		ug/L	99	70 - 130		2	30
1,3-Dichloropropane	20.0	19.3		ug/L	96	70 - 130		4	30
2,2-Dichloropropane	20.0	21.6		ug/L	108	70 - 130		7	30
1,1-Dichloropropene	20.0	20.4		ug/L	102	70 - 130		5	30
Ethylbenzene	20.0	20.4		ug/L	102	70 - 130		3	30
Methylene Chloride	20.0	19.1		ug/L	95	70 - 130		3	30
Methyl tert-butyl ether	16.0	16.1		ug/L	101	70 - 130		1	30
m-Xylene & p-Xylene	40.0	41.1		ug/L	103	70 - 130		4	30
o-Xylene	20.0	20.2		ug/L	101	70 - 130		3	30
Styrene	20.0	22.0		ug/L	110	70 - 130		4	30
1,1,1,2-Tetrachloroethane	20.0	20.7		ug/L	103	70 - 130		4	30
1,1,2,2-Tetrachloroethane	20.0	19.2		ug/L	96	70 - 130		4	30
Tetrachloroethene	20.0	19.6		ug/L	98	70 - 130		4	30
Toluene	20.0	20.2		ug/L	101	70 - 130		1	30
trans-1,2-Dichloroethene	20.0	18.7		ug/L	93	70 - 130		3	30
trans-1,3-Dichloropropene	20.0	21.1		ug/L	106	70 - 130		3	30
1,2,4-Trichlorobenzene	20.0	21.5		ug/L	107	70 - 130		5	30
1,1,1-Trichloroethane	20.0	20.1		ug/L	100	70 - 130		3	30
1,1,2-Trichloroethane	20.0	20.2		ug/L	101	70 - 130		4	30
Trichloroethene	20.0	19.5		ug/L	98	70 - 130		3	30
1,2,3-Trichloropropane	20.0	19.4		ug/L	97	70 - 130		2	30
Vinyl chloride	20.0	19.9		ug/L	100	70 - 130		3	30
Xylenes, Total	60.0	61.3		ug/L	102	70 - 130		4	30

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	104		70 - 130
1,2-Dichlorobenzene-d4	101		70 - 130

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 680-240294/6

Matrix: Water

Analysis Batch: 240294

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	<0.50		0.50		ug/L			06/13/12 16:07	1
Bromobenzene	<0.50		0.50		ug/L			06/13/12 16:07	1
Bromoform	<0.50		0.50		ug/L			06/13/12 16:07	1
Bromomethane	<1.0		1.0		ug/L			06/13/12 16:07	1
Carbon tetrachloride	<0.50		0.50		ug/L			06/13/12 16:07	1
Chlorobenzene	<0.50		0.50		ug/L			06/13/12 16:07	1
Chlorodibromomethane	<0.50		0.50		ug/L			06/13/12 16:07	1
Chloroethane	<1.0		1.0		ug/L			06/13/12 16:07	1
Chloroform	<0.50		0.50		ug/L			06/13/12 16:07	1
Chloromethane	<0.50		0.50		ug/L			06/13/12 16:07	1
2-Chlorotoluene	<0.50		0.50		ug/L			06/13/12 16:07	1
4-Chlorotoluene	<0.50		0.50		ug/L			06/13/12 16:07	1
cis-1,2-Dichloroethene	<0.50		0.50		ug/L			06/13/12 16:07	1
cis-1,3-Dichloropropene	<0.50		0.50		ug/L			06/13/12 16:07	1
Dibromomethane	<0.50		0.50		ug/L			06/13/12 16:07	1
1,2-Dichlorobenzene	<0.50		0.50		ug/L			06/13/12 16:07	1
1,3-Dichlorobenzene	<0.50		0.50		ug/L			06/13/12 16:07	1
1,4-Dichlorobenzene	<0.50		0.50		ug/L			06/13/12 16:07	1
Dichlorobromomethane	<1.0		1.0		ug/L			06/13/12 16:07	1
1,1-Dichloroethane	<0.50		0.50		ug/L			06/13/12 16:07	1
1,2-Dichloroethane	<0.50		0.50		ug/L			06/13/12 16:07	1
1,1-Dichloroethene	<0.50		0.50		ug/L			06/13/12 16:07	1
1,2-Dichloropropane	<0.50		0.50		ug/L			06/13/12 16:07	1
1,3-Dichloropropane	<0.50		0.50		ug/L			06/13/12 16:07	1
2,2-Dichloropropane	<0.50		0.50		ug/L			06/13/12 16:07	1
1,1-Dichloropropene	<0.50		0.50		ug/L			06/13/12 16:07	1
Ethylbenzene	<0.50		0.50		ug/L			06/13/12 16:07	1
Methylene Chloride	<0.50		0.50		ug/L			06/13/12 16:07	1
Methyl tert-butyl ether	<0.50		0.50		ug/L			06/13/12 16:07	1
m-Xylene & p-Xylene	<0.50		0.50		ug/L			06/13/12 16:07	1
o-Xylene	<0.50		0.50		ug/L			06/13/12 16:07	1
Styrene	<0.50		0.50		ug/L			06/13/12 16:07	1
1,1,1,2-Tetrachloroethane	<0.50		0.50		ug/L			06/13/12 16:07	1
1,1,2,2-Tetrachloroethane	<0.50		0.50		ug/L			06/13/12 16:07	1
Tetrachloroethene	<0.50		0.50		ug/L			06/13/12 16:07	1
Toluene	<0.50		0.50		ug/L			06/13/12 16:07	1
trans-1,2-Dichloroethene	<0.50		0.50		ug/L			06/13/12 16:07	1
trans-1,3-Dichloropropene	<0.50		0.50		ug/L			06/13/12 16:07	1
1,2,4-Trichlorobenzene	<0.50		0.50		ug/L			06/13/12 16:07	1
1,1,1-Trichloroethane	<0.50		0.50		ug/L			06/13/12 16:07	1
1,1,2-Trichloroethane	<0.50		0.50		ug/L			06/13/12 16:07	1
Trichloroethene	<0.50		0.50		ug/L			06/13/12 16:07	1
1,2,3-Trichloropropane	<0.50		0.50		ug/L			06/13/12 16:07	1
Vinyl chloride	<0.50		0.50		ug/L			06/13/12 16:07	1
Xylenes, Total	<0.50		0.50		ug/L			06/13/12 16:07	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	98		70 - 130			1
1,2-Dichlorobenzene-d4	95		70 - 130			1

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-240294/3

Matrix: Water

Analysis Batch: 240294

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	20.0	19.3		ug/L	96	70 - 130	
Bromobenzene	20.0	19.9		ug/L	99	70 - 130	
Bromoform	20.0	20.3		ug/L	101	70 - 130	
Bromomethane	20.0	17.1		ug/L	85	70 - 130	
Carbon tetrachloride	20.0	20.8		ug/L	104	70 - 130	
Chlorobenzene	20.0	19.8		ug/L	99	70 - 130	
Chlorodibromomethane	20.0	21.9		ug/L	110	70 - 130	
Chloroethane	20.0	19.5		ug/L	97	70 - 130	
Chloroform	20.0	19.0		ug/L	95	70 - 130	
Chloromethane	20.0	16.6		ug/L	83	70 - 130	
2-Chlorotoluene	20.0	20.0		ug/L	100	70 - 130	
4-Chlorotoluene	20.0	20.3		ug/L	102	70 - 130	
cis-1,2-Dichloroethene	20.0	18.5		ug/L	93	70 - 130	
cis-1,3-Dichloropropene	20.0	20.9		ug/L	105	70 - 130	
Dibromomethane	20.0	19.5		ug/L	97	70 - 130	
1,2-Dichlorobenzene	20.0	20.3		ug/L	101	70 - 130	
1,3-Dichlorobenzene	20.0	20.7		ug/L	104	70 - 130	
1,4-Dichlorobenzene	20.0	20.3		ug/L	101	70 - 130	
Dichlorobromomethane	20.0	20.4		ug/L	102	70 - 130	
1,1-Dichloroethane	20.0	20.3		ug/L	101	70 - 130	
1,2-Dichloroethane	20.0	19.0		ug/L	95	70 - 130	
1,1-Dichloroethene	20.0	19.2		ug/L	96	70 - 130	
1,2-Dichloropropane	20.0	19.6		ug/L	98	70 - 130	
1,3-Dichloropropane	20.0	19.2		ug/L	96	70 - 130	
2,2-Dichloropropane	20.0	20.9		ug/L	104	70 - 130	
1,1-Dichloropropene	20.0	19.8		ug/L	99	70 - 130	
Ethylbenzene	20.0	20.5		ug/L	102	70 - 130	
Methylene Chloride	20.0	18.8		ug/L	94	70 - 130	
Methyl tert-butyl ether	16.0	16.8		ug/L	105	70 - 130	
m-Xylene & p-Xylene	40.0	41.1		ug/L	103	70 - 130	
o-Xylene	20.0	20.4		ug/L	102	70 - 130	
Styrene	20.0	21.8		ug/L	109	70 - 130	
1,1,1,2-Tetrachloroethane	20.0	20.7		ug/L	104	70 - 130	
1,1,2,2-Tetrachloroethane	20.0	19.2		ug/L	96	70 - 130	
Tetrachloroethene	20.0	20.0		ug/L	100	70 - 130	
Toluene	20.0	20.1		ug/L	100	70 - 130	
trans-1,2-Dichloroethene	20.0	18.6		ug/L	93	70 - 130	
trans-1,3-Dichloropropene	20.0	21.1		ug/L	106	70 - 130	
1,2,4-Trichlorobenzene	20.0	20.3		ug/L	102	70 - 130	
1,1,1-Trichloroethane	20.0	20.1		ug/L	100	70 - 130	
1,1,2-Trichloroethane	20.0	19.9		ug/L	100	70 - 130	
Trichloroethene	20.0	19.1		ug/L	96	70 - 130	
1,2,3-Trichloropropane	20.0	19.9		ug/L	99	70 - 130	
Vinyl chloride	20.0	19.2		ug/L	96	70 - 130	
Xylenes, Total	60.0	61.5		ug/L	102	70 - 130	

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	103		70 - 130
1,2-Dichlorobenzene-d4	101		70 - 130

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-240294/4

Matrix: Water

Analysis Batch: 240294

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	20.0	20.0		ug/L		100	70 - 130	4	30
Bromobenzene	20.0	20.4		ug/L		102	70 - 130	2	30
Bromoform	20.0	21.0		ug/L		105	70 - 130	3	30
Bromomethane	20.0	20.8		ug/L		104	70 - 130	20	30
Carbon tetrachloride	20.0	21.5		ug/L		108	70 - 130	3	30
Chlorobenzene	20.0	20.1		ug/L		101	70 - 130	2	30
Chlorodibromomethane	20.0	22.1		ug/L		110	70 - 130	1	30
Chloroethane	20.0	20.4		ug/L		102	70 - 130	5	30
Chloroform	20.0	19.9		ug/L		99	70 - 130	4	30
Chloromethane	20.0	17.5		ug/L		88	70 - 130	6	30
2-Chlorotoluene	20.0	20.8		ug/L		104	70 - 130	4	30
4-Chlorotoluene	20.0	21.2		ug/L		106	70 - 130	4	30
cis-1,2-Dichloroethene	20.0	19.4		ug/L		97	70 - 130	4	30
cis-1,3-Dichloropropene	20.0	21.3		ug/L		106	70 - 130	2	30
Dibromomethane	20.0	20.2		ug/L		101	70 - 130	3	30
1,2-Dichlorobenzene	20.0	20.7		ug/L		103	70 - 130	2	30
1,3-Dichlorobenzene	20.0	21.3		ug/L		107	70 - 130	3	30
1,4-Dichlorobenzene	20.0	21.0		ug/L		105	70 - 130	3	30
Dichlorobromomethane	20.0	21.1		ug/L		106	70 - 130	4	30
1,1-Dichloroethane	20.0	20.6		ug/L		103	70 - 130	1	30
1,2-Dichloroethane	20.0	19.9		ug/L		100	70 - 130	5	30
1,1-Dichloroethene	20.0	19.9		ug/L		99	70 - 130	4	30
1,2-Dichloropropane	20.0	20.2		ug/L		101	70 - 130	3	30
1,3-Dichloropropane	20.0	19.5		ug/L		97	70 - 130	1	30
2,2-Dichloropropane	20.0	21.4		ug/L		107	70 - 130	2	30
1,1-Dichloropropene	20.0	20.6		ug/L		103	70 - 130	4	30
Ethylbenzene	20.0	21.0		ug/L		105	70 - 130	3	30
Methylene Chloride	20.0	19.0		ug/L		95	70 - 130	1	30
Methyl tert-butyl ether	16.0	16.8		ug/L		105	70 - 130	0	30
m-Xylene & p-Xylene	40.0	41.9		ug/L		105	70 - 130	2	30
o-Xylene	20.0	21.0		ug/L		105	70 - 130	3	30
Styrene	20.0	22.6		ug/L		113	70 - 130	4	30
1,1,1,2-Tetrachloroethane	20.0	21.6		ug/L		108	70 - 130	4	30
1,1,2,2-Tetrachloroethane	20.0	19.6		ug/L		98	70 - 130	2	30
Tetrachloroethene	20.0	20.1		ug/L		101	70 - 130	0	30
Toluene	20.0	20.7		ug/L		104	70 - 130	3	30
trans-1,2-Dichloroethene	20.0	19.0		ug/L		95	70 - 130	2	30
trans-1,3-Dichloropropene	20.0	21.5		ug/L		107	70 - 130	2	30
1,2,4-Trichlorobenzene	20.0	20.4		ug/L		102	70 - 130	0	30
1,1,1-Trichloroethane	20.0	20.9		ug/L		104	70 - 130	4	30
1,1,2-Trichloroethane	20.0	20.3		ug/L		102	70 - 130	2	30
Trichloroethene	20.0	20.1		ug/L		100	70 - 130	5	30
1,2,3-Trichloropropane	20.0	20.5		ug/L		102	70 - 130	3	30
Vinyl chloride	20.0	20.8		ug/L		104	70 - 130	8	30
Xylenes, Total	60.0	62.9		ug/L		105	70 - 130	2	30

Surrogate	LCSD	LCSD	
	%Recovery	Qualifier	Limits
4-Bromofluorobenzene	102		70 - 130
1,2-Dichlorobenzene-d4	102		70 - 130

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 680-240306/12

Matrix: Water

Analysis Batch: 240306

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	<0.50		0.50		ug/L			06/13/12 19:02	1
Bromobenzene	<0.50		0.50		ug/L			06/13/12 19:02	1
Bromoform	<0.50		0.50		ug/L			06/13/12 19:02	1
Bromomethane	<1.0		1.0		ug/L			06/13/12 19:02	1
Carbon tetrachloride	<0.50		0.50		ug/L			06/13/12 19:02	1
Chlorobenzene	<0.50		0.50		ug/L			06/13/12 19:02	1
Chlorodibromomethane	<0.50		0.50		ug/L			06/13/12 19:02	1
Chloroethane	<1.0		1.0		ug/L			06/13/12 19:02	1
Chloroform	<0.50		0.50		ug/L			06/13/12 19:02	1
Chloromethane	<0.50		0.50		ug/L			06/13/12 19:02	1
2-Chlorotoluene	<0.50		0.50		ug/L			06/13/12 19:02	1
4-Chlorotoluene	<0.50		0.50		ug/L			06/13/12 19:02	1
cis-1,2-Dichloroethene	<0.50		0.50		ug/L			06/13/12 19:02	1
cis-1,3-Dichloropropene	<0.50		0.50		ug/L			06/13/12 19:02	1
Dibromomethane	<0.50		0.50		ug/L			06/13/12 19:02	1
1,2-Dichlorobenzene	<0.50		0.50		ug/L			06/13/12 19:02	1
1,3-Dichlorobenzene	<0.50		0.50		ug/L			06/13/12 19:02	1
1,4-Dichlorobenzene	<0.50		0.50		ug/L			06/13/12 19:02	1
Dichlorobromomethane	<1.0		1.0		ug/L			06/13/12 19:02	1
1,1-Dichloroethane	<0.50		0.50		ug/L			06/13/12 19:02	1
1,2-Dichloroethane	<0.50		0.50		ug/L			06/13/12 19:02	1
1,1-Dichloroethene	<0.50		0.50		ug/L			06/13/12 19:02	1
1,2-Dichloropropane	<0.50		0.50		ug/L			06/13/12 19:02	1
1,3-Dichloropropane	<0.50		0.50		ug/L			06/13/12 19:02	1
2,2-Dichloropropane	<0.50		0.50		ug/L			06/13/12 19:02	1
1,1-Dichloropropene	<0.50		0.50		ug/L			06/13/12 19:02	1
Ethylbenzene	<0.50		0.50		ug/L			06/13/12 19:02	1
Methylene Chloride	<0.50		0.50		ug/L			06/13/12 19:02	1
Methyl tert-butyl ether	<0.50		0.50		ug/L			06/13/12 19:02	1
m-Xylene & p-Xylene	<0.50		0.50		ug/L			06/13/12 19:02	1
o-Xylene	<0.50		0.50		ug/L			06/13/12 19:02	1
Styrene	<0.50		0.50		ug/L			06/13/12 19:02	1
1,1,1,2-Tetrachloroethane	<0.50		0.50		ug/L			06/13/12 19:02	1
1,1,2,2-Tetrachloroethane	<0.50		0.50		ug/L			06/13/12 19:02	1
Tetrachloroethene	<0.50		0.50		ug/L			06/13/12 19:02	1
Toluene	<0.50		0.50		ug/L			06/13/12 19:02	1
trans-1,2-Dichloroethene	<0.50		0.50		ug/L			06/13/12 19:02	1
trans-1,3-Dichloropropene	<0.50		0.50		ug/L			06/13/12 19:02	1
1,2,4-Trichlorobenzene	<0.50		0.50		ug/L			06/13/12 19:02	1
1,1,1-Trichloroethane	<0.50		0.50		ug/L			06/13/12 19:02	1
1,1,2-Trichloroethane	<0.50		0.50		ug/L			06/13/12 19:02	1
Trichloroethene	<0.50		0.50		ug/L			06/13/12 19:02	1
1,2,3-Trichloropropane	<0.50		0.50		ug/L			06/13/12 19:02	1
Vinyl chloride	<0.50		0.50		ug/L			06/13/12 19:02	1
Xylenes, Total	<0.50		0.50		ug/L			06/13/12 19:02	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	120		70 - 130			1
1,2-Dichlorobenzene-d4	114		70 - 130			1

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-240306/9

Matrix: Water

Analysis Batch: 240306

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	Limits
Benzene	20.0	22.3		ug/L		112	70 - 130	
Bromobenzene	20.0	23.0		ug/L		115	70 - 130	
Bromoform	20.0	24.4		ug/L		122	70 - 130	
Bromomethane	20.0	25.5		ug/L		127	70 - 130	
Carbon tetrachloride	20.0	25.7		ug/L		129	70 - 130	
Chlorobenzene	20.0	22.9		ug/L		115	70 - 130	
Chlorodibromomethane	20.0	24.4		ug/L		122	70 - 130	
Chloroethane	20.0	22.5		ug/L		113	70 - 130	
Chloroform	20.0	23.9		ug/L		120	70 - 130	
Chloromethane	20.0	19.4		ug/L		97	70 - 130	
2-Chlorotoluene	20.0	23.4		ug/L		117	70 - 130	
4-Chlorotoluene	20.0	23.4		ug/L		117	70 - 130	
cis-1,2-Dichloroethene	20.0	21.7		ug/L		108	70 - 130	
cis-1,3-Dichloropropene	20.0	23.4		ug/L		117	70 - 130	
Dibromomethane	20.0	22.5		ug/L		113	70 - 130	
1,2-Dichlorobenzene	20.0	22.7		ug/L		113	70 - 130	
1,3-Dichlorobenzene	20.0	23.6		ug/L		118	70 - 130	
1,4-Dichlorobenzene	20.0	22.9		ug/L		114	70 - 130	
Dichlorobromomethane	20.0	24.0		ug/L		120	70 - 130	
1,1-Dichloroethane	20.0	22.9		ug/L		115	70 - 130	
1,2-Dichloroethane	20.0	22.2		ug/L		111	70 - 130	
1,1-Dichloroethene	20.0	29.4	*	ug/L		147	70 - 130	
1,2-Dichloropropane	20.0	21.9		ug/L		110	70 - 130	
1,3-Dichloropropane	20.0	21.4		ug/L		107	70 - 130	
2,2-Dichloropropane	20.0	24.5		ug/L		123	70 - 130	
1,1-Dichloropropene	20.0	23.9		ug/L		119	70 - 130	
Ethylbenzene	20.0	24.1		ug/L		120	70 - 130	
Methylene Chloride	20.0	24.3		ug/L		122	70 - 130	
Methyl tert-butyl ether	16.0	17.7		ug/L		111	70 - 130	
m-Xylene & p-Xylene	40.0	47.3		ug/L		118	70 - 130	
o-Xylene	20.0	24.3		ug/L		122	70 - 130	
Styrene	20.0	24.0		ug/L		120	70 - 130	
1,1,1,2-Tetrachloroethane	20.0	23.6		ug/L		118	70 - 130	
1,1,2,2-Tetrachloroethane	20.0	21.3		ug/L		106	70 - 130	
Tetrachloroethene	20.0	23.1		ug/L		115	70 - 130	
Toluene	20.0	23.1		ug/L		115	70 - 130	
trans-1,2-Dichloroethene	20.0	21.8		ug/L		109	70 - 130	
trans-1,3-Dichloropropene	20.0	23.8		ug/L		119	70 - 130	
1,2,4-Trichlorobenzene	20.0	25.0		ug/L		125	70 - 130	
1,1,1-Trichloroethane	20.0	24.1		ug/L		121	70 - 130	
1,1,2-Trichloroethane	20.0	22.4		ug/L		112	70 - 130	
Trichloroethene	20.0	23.2		ug/L		116	70 - 130	
1,2,3-Trichloropropane	20.0	22.8		ug/L		114	70 - 130	
Vinyl chloride	20.0	21.5		ug/L		108	70 - 130	
Xylenes, Total	60.0	71.6		ug/L		119	70 - 130	

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	128		70 - 130
1,2-Dichlorobenzene-d4	123		70 - 130

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-240306/10

Matrix: Water

Analysis Batch: 240306

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Benzene	20.0	22.2		ug/L	111	70 - 130	1	30	
Bromobenzene	20.0	22.8		ug/L	114	70 - 130	1	30	
Bromoform	20.0	23.9		ug/L	120	70 - 130	2	30	
Bromomethane	20.0	26.2 *		ug/L	131	70 - 130	3	30	
Carbon tetrachloride	20.0	25.3		ug/L	126	70 - 130	2	30	
Chlorobenzene	20.0	23.2		ug/L	116	70 - 130	1	30	
Chlorodibromomethane	20.0	23.8		ug/L	119	70 - 130	2	30	
Chloroethane	20.0	23.6		ug/L	118	70 - 130	5	30	
Chloroform	20.0	23.7		ug/L	118	70 - 130	1	30	
Chloromethane	20.0	20.1		ug/L	101	70 - 130	4	30	
2-Chlorotoluene	20.0	23.5		ug/L	117	70 - 130	0	30	
4-Chlorotoluene	20.0	23.2		ug/L	116	70 - 130	1	30	
cis-1,2-Dichloroethene	20.0	22.0		ug/L	110	70 - 130	1	30	
cis-1,3-Dichloropropene	20.0	22.9		ug/L	115	70 - 130	2	30	
Dibromomethane	20.0	21.6		ug/L	108	70 - 130	4	30	
1,2-Dichlorobenzene	20.0	22.6		ug/L	113	70 - 130	1	30	
1,3-Dichlorobenzene	20.0	23.1		ug/L	116	70 - 130	2	30	
1,4-Dichlorobenzene	20.0	22.7		ug/L	113	70 - 130	1	30	
Dichlorobromomethane	20.0	23.6		ug/L	118	70 - 130	2	30	
1,1-Dichloroethane	20.0	22.2		ug/L	111	70 - 130	3	30	
1,2-Dichloroethane	20.0	21.9		ug/L	109	70 - 130	2	30	
1,1-Dichloroethene	20.0	28.2 *		ug/L	141	70 - 130	4	30	
1,2-Dichloropropane	20.0	22.1		ug/L	111	70 - 130	1	30	
1,3-Dichloropropane	20.0	21.5		ug/L	108	70 - 130	1	30	
2,2-Dichloropropane	20.0	25.1		ug/L	125	70 - 130	2	30	
1,1-Dichloropropene	20.0	23.7		ug/L	119	70 - 130	1	30	
Ethylbenzene	20.0	23.9		ug/L	120	70 - 130	1	30	
Methylene Chloride	20.0	22.6		ug/L	113	70 - 130	8	30	
Methyl tert-butyl ether	16.0	17.5		ug/L	110	70 - 130	1	30	
m-Xylene & p-Xylene	40.0	47.4		ug/L	119	70 - 130	0	30	
o-Xylene	20.0	23.9		ug/L	119	70 - 130	2	30	
Styrene	20.0	24.0		ug/L	120	70 - 130	0	30	
1,1,1,2-Tetrachloroethane	20.0	23.3		ug/L	116	70 - 130	2	30	
1,1,2,2-Tetrachloroethane	20.0	21.3		ug/L	107	70 - 130	0	30	
Tetrachloroethene	20.0	22.8		ug/L	114	70 - 130	1	30	
Toluene	20.0	23.3		ug/L	117	70 - 130	1	30	
trans-1,2-Dichloroethene	20.0	21.7		ug/L	108	70 - 130	0	30	
trans-1,3-Dichloropropene	20.0	23.3		ug/L	116	70 - 130	2	30	
1,2,4-Trichlorobenzene	20.0	24.3		ug/L	121	70 - 130	3	30	
1,1,1-Trichloroethane	20.0	23.7		ug/L	119	70 - 130	2	30	
1,1,2-Trichloroethane	20.0	21.1		ug/L	105	70 - 130	6	30	
Trichloroethene	20.0	23.5		ug/L	118	70 - 130	1	30	
1,2,3-Trichloropropane	20.0	23.0		ug/L	115	70 - 130	1	30	
Vinyl chloride	20.0	22.3		ug/L	112	70 - 130	4	30	
Xylenes, Total	60.0	71.3		ug/L	119	70 - 130	0	30	

Surrogate	LCSD	LCSD	
	%Recovery	Qualifier	Limits
4-Bromofluorobenzene	122		70 - 130
1,2-Dichlorobenzene-d4	121		70 - 130

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 680-240452/6

Matrix: Water

Analysis Batch: 240452

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	<0.50		0.50		ug/L			06/14/12 16:42	1
Bromobenzene	<0.50		0.50		ug/L			06/14/12 16:42	1
Bromoform	<0.50		0.50		ug/L			06/14/12 16:42	1
Bromomethane	<1.0		1.0		ug/L			06/14/12 16:42	1
Carbon tetrachloride	<0.50		0.50		ug/L			06/14/12 16:42	1
Chlorobenzene	<0.50		0.50		ug/L			06/14/12 16:42	1
Chlorodibromomethane	<0.50		0.50		ug/L			06/14/12 16:42	1
Chloroethane	<1.0		1.0		ug/L			06/14/12 16:42	1
Chloroform	<0.50		0.50		ug/L			06/14/12 16:42	1
Chloromethane	<0.50		0.50		ug/L			06/14/12 16:42	1
2-Chlorotoluene	<0.50		0.50		ug/L			06/14/12 16:42	1
4-Chlorotoluene	<0.50		0.50		ug/L			06/14/12 16:42	1
cis-1,2-Dichloroethene	<0.50		0.50		ug/L			06/14/12 16:42	1
cis-1,3-Dichloropropene	<0.50		0.50		ug/L			06/14/12 16:42	1
Dibromomethane	<0.50		0.50		ug/L			06/14/12 16:42	1
1,2-Dichlorobenzene	<0.50		0.50		ug/L			06/14/12 16:42	1
1,3-Dichlorobenzene	<0.50		0.50		ug/L			06/14/12 16:42	1
1,4-Dichlorobenzene	<0.50		0.50		ug/L			06/14/12 16:42	1
Dichlorobromomethane	<1.0		1.0		ug/L			06/14/12 16:42	1
1,1-Dichloroethane	<0.50		0.50		ug/L			06/14/12 16:42	1
1,2-Dichloroethane	<0.50		0.50		ug/L			06/14/12 16:42	1
1,1-Dichloroethene	<0.50		0.50		ug/L			06/14/12 16:42	1
1,2-Dichloropropane	<0.50		0.50		ug/L			06/14/12 16:42	1
1,3-Dichloropropane	<0.50		0.50		ug/L			06/14/12 16:42	1
2,2-Dichloropropane	<0.50		0.50		ug/L			06/14/12 16:42	1
1,1-Dichloropropene	<0.50		0.50		ug/L			06/14/12 16:42	1
Ethylbenzene	<0.50		0.50		ug/L			06/14/12 16:42	1
Methylene Chloride	<0.50		0.50		ug/L			06/14/12 16:42	1
Methyl tert-butyl ether	<0.50		0.50		ug/L			06/14/12 16:42	1
m-Xylene & p-Xylene	<0.50		0.50		ug/L			06/14/12 16:42	1
o-Xylene	<0.50		0.50		ug/L			06/14/12 16:42	1
Styrene	<0.50		0.50		ug/L			06/14/12 16:42	1
1,1,1,2-Tetrachloroethane	<0.50		0.50		ug/L			06/14/12 16:42	1
1,1,2,2-Tetrachloroethane	<0.50		0.50		ug/L			06/14/12 16:42	1
Tetrachloroethene	<0.50		0.50		ug/L			06/14/12 16:42	1
Toluene	<0.50		0.50		ug/L			06/14/12 16:42	1
trans-1,2-Dichloroethene	<0.50		0.50		ug/L			06/14/12 16:42	1
trans-1,3-Dichloropropene	<0.50		0.50		ug/L			06/14/12 16:42	1
1,2,4-Trichlorobenzene	<0.50		0.50		ug/L			06/14/12 16:42	1
1,1,1-Trichloroethane	<0.50		0.50		ug/L			06/14/12 16:42	1
1,1,2-Trichloroethane	<0.50		0.50		ug/L			06/14/12 16:42	1
Trichloroethene	<0.50		0.50		ug/L			06/14/12 16:42	1
1,2,3-Trichloropropane	<0.50		0.50		ug/L			06/14/12 16:42	1
Vinyl chloride	<0.50		0.50		ug/L			06/14/12 16:42	1
Xylenes, Total	<0.50		0.50		ug/L			06/14/12 16:42	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	122		70 - 130		06/14/12 16:42	1
1,2-Dichlorobenzene-d4	120		70 - 130		06/14/12 16:42	1

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-240452/3

Matrix: Water

Analysis Batch: 240452

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	20.0	22.6		ug/L	113	70 - 130	
Bromobenzene	20.0	24.5		ug/L	123	70 - 130	
Bromoform	20.0	24.6		ug/L	123	70 - 130	
Bromomethane	20.0	23.5		ug/L	118	70 - 130	
Carbon tetrachloride	20.0	26.1		ug/L	130	70 - 130	
Chlorobenzene	20.0	24.0		ug/L	120	70 - 130	
Chlorodibromomethane	20.0	26.4 *		ug/L	132	70 - 130	
Chloroethane	20.0	23.0		ug/L	115	70 - 130	
Chloroform	20.0	23.0		ug/L	115	70 - 130	
Chloromethane	20.0	21.5		ug/L	107	70 - 130	
2-Chlorotoluene	20.0	24.0		ug/L	120	70 - 130	
4-Chlorotoluene	20.0	24.0		ug/L	120	70 - 130	
cis-1,2-Dichloroethene	20.0	22.9		ug/L	115	70 - 130	
cis-1,3-Dichloropropene	20.0	23.7		ug/L	118	70 - 130	
Dibromomethane	20.0	23.2		ug/L	116	70 - 130	
1,2-Dichlorobenzene	20.0	24.4		ug/L	122	70 - 130	
1,3-Dichlorobenzene	20.0	25.2		ug/L	126	70 - 130	
1,4-Dichlorobenzene	20.0	24.8		ug/L	124	70 - 130	
Dichlorobromomethane	20.0	24.0		ug/L	120	70 - 130	
1,1-Dichloroethane	20.0	22.7		ug/L	113	70 - 130	
1,2-Dichloroethane	20.0	22.3		ug/L	111	70 - 130	
1,1-Dichloroethene	20.0	23.1		ug/L	115	70 - 130	
1,2-Dichloropropene	20.0	22.9		ug/L	114	70 - 130	
1,3-Dichloropropene	20.0	21.8		ug/L	109	70 - 130	
2,2-Dichloropropene	20.0	24.8		ug/L	124	70 - 130	
1,1-Dichloropropene	20.0	23.7		ug/L	119	70 - 130	
Ethylbenzene	20.0	24.3		ug/L	122	70 - 130	
Methylene Chloride	20.0	21.7		ug/L	109	70 - 130	
Methyl tert-butyl ether	16.0	18.1		ug/L	113	70 - 130	
m-Xylene & p-Xylene	40.0	49.1		ug/L	123	70 - 130	
o-Xylene	20.0	24.3		ug/L	121	70 - 130	
Styrene	20.0	25.1		ug/L	126	70 - 130	
1,1,1,2-Tetrachloroethane	20.0	25.3		ug/L	127	70 - 130	
1,1,2,2-Tetrachloroethane	20.0	22.3		ug/L	111	70 - 130	
Tetrachloroethene	20.0	24.9		ug/L	124	70 - 130	
Toluene	20.0	23.9		ug/L	119	70 - 130	
trans-1,2-Dichloroethene	20.0	22.6		ug/L	113	70 - 130	
trans-1,3-Dichloropropene	20.0	24.5		ug/L	123	70 - 130	
1,2,4-Trichlorobenzene	20.0	23.6		ug/L	118	70 - 130	
1,1,1-Trichloroethane	20.0	24.5		ug/L	123	70 - 130	
1,1,2-Trichloroethane	20.0	22.3		ug/L	111	70 - 130	
Trichloroethene	20.0	23.7		ug/L	118	70 - 130	
1,2,3-Trichloropropane	20.0	22.9		ug/L	115	70 - 130	
Vinyl chloride	20.0	21.8		ug/L	109	70 - 130	
Xylenes, Total	60.0	73.4		ug/L	122	70 - 130	

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	127		70 - 130
1,2-Dichlorobenzene-d4	128		70 - 130

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-240452/4

Matrix: Water

Analysis Batch: 240452

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Benzene	20.0	22.1		ug/L	111	70 - 130	2	30	
Bromobenzene	20.0	23.8		ug/L	119	70 - 130	3	30	
Bromoform	20.0	24.0		ug/L	120	70 - 130	3	30	
Bromomethane	20.0	24.0		ug/L	120	70 - 130	2	30	
Carbon tetrachloride	20.0	24.3		ug/L	121	70 - 130	7	30	
Chlorobenzene	20.0	23.3		ug/L	116	70 - 130	3	30	
Chlorodibromomethane	20.0	25.8		ug/L	129	70 - 130	2	30	
Chloroethane	20.0	24.5		ug/L	123	70 - 130	7	30	
Chloroform	20.0	22.3		ug/L	111	70 - 130	3	30	
Chloromethane	20.0	20.5		ug/L	103	70 - 130	5	30	
2-Chlorotoluene	20.0	23.5		ug/L	118	70 - 130	2	30	
4-Chlorotoluene	20.0	23.3		ug/L	117	70 - 130	3	30	
cis-1,2-Dichloroethene	20.0	22.3		ug/L	112	70 - 130	3	30	
cis-1,3-Dichloropropene	20.0	23.8		ug/L	119	70 - 130	1	30	
Dibromomethane	20.0	22.9		ug/L	115	70 - 130	1	30	
1,2-Dichlorobenzene	20.0	23.8		ug/L	119	70 - 130	2	30	
1,3-Dichlorobenzene	20.0	24.5		ug/L	122	70 - 130	3	30	
1,4-Dichlorobenzene	20.0	24.0		ug/L	120	70 - 130	3	30	
Dichlorobromomethane	20.0	23.8		ug/L	119	70 - 130	1	30	
1,1-Dichloroethane	20.0	22.3		ug/L	112	70 - 130	1	30	
1,2-Dichloroethane	20.0	22.3		ug/L	112	70 - 130	0	30	
1,1-Dichloroethene	20.0	21.7		ug/L	109	70 - 130	6	30	
1,2-Dichloropropane	20.0	22.3		ug/L	111	70 - 130	3	30	
1,3-Dichloropropane	20.0	21.7		ug/L	108	70 - 130	0	30	
2,2-Dichloropropane	20.0	24.0		ug/L	120	70 - 130	3	30	
1,1-Dichloropropene	20.0	22.4		ug/L	112	70 - 130	6	30	
Ethylbenzene	20.0	23.5		ug/L	117	70 - 130	4	30	
Methylene Chloride	20.0	21.6		ug/L	108	70 - 130	1	30	
Methyl tert-butyl ether	16.0	18.0		ug/L	113	70 - 130	0	30	
m-Xylene & p-Xylene	40.0	47.4		ug/L	119	70 - 130	3	30	
o-Xylene	20.0	23.4		ug/L	117	70 - 130	4	30	
Styrene	20.0	24.8		ug/L	124	70 - 130	1	30	
1,1,1,2-Tetrachloroethane	20.0	24.2		ug/L	121	70 - 130	5	30	
1,1,2,2-Tetrachloroethane	20.0	22.2		ug/L	111	70 - 130	1	30	
Tetrachloroethene	20.0	23.6		ug/L	118	70 - 130	5	30	
Toluene	20.0	23.3		ug/L	117	70 - 130	2	30	
trans-1,2-Dichloroethene	20.0	21.8		ug/L	109	70 - 130	3	30	
trans-1,3-Dichloropropene	20.0	24.1		ug/L	121	70 - 130	2	30	
1,2,4-Trichlorobenzene	20.0	22.6		ug/L	113	70 - 130	4	30	
1,1,1-Trichloroethane	20.0	23.2		ug/L	116	70 - 130	6	30	
1,1,2-Trichloroethane	20.0	22.1		ug/L	111	70 - 130	1	30	
Trichloroethene	20.0	22.5		ug/L	113	70 - 130	5	30	
1,2,3-Trichloropropane	20.0	22.6		ug/L	113	70 - 130	1	30	
Vinyl chloride	20.0	21.7		ug/L	109	70 - 130	0	30	
Xylenes, Total	60.0	70.9		ug/L	118	70 - 130	3	30	

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	127		70 - 130
1,2-Dichlorobenzene-d4	128		70 - 130

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 680-240453/6

Matrix: Water

Analysis Batch: 240453

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	<0.50		0.50		ug/L			06/14/12 16:36	1
Bromobenzene	<0.50		0.50		ug/L			06/14/12 16:36	1
Bromoform	<0.50		0.50		ug/L			06/14/12 16:36	1
Bromomethane	<1.0		1.0		ug/L			06/14/12 16:36	1
Carbon tetrachloride	<0.50		0.50		ug/L			06/14/12 16:36	1
Chlorobenzene	<0.50		0.50		ug/L			06/14/12 16:36	1
Chlorodibromomethane	<0.50		0.50		ug/L			06/14/12 16:36	1
Chloroethane	<1.0		1.0		ug/L			06/14/12 16:36	1
Chloroform	<0.50		0.50		ug/L			06/14/12 16:36	1
Chloromethane	<0.50		0.50		ug/L			06/14/12 16:36	1
2-Chlorotoluene	<0.50		0.50		ug/L			06/14/12 16:36	1
4-Chlorotoluene	<0.50		0.50		ug/L			06/14/12 16:36	1
cis-1,2-Dichloroethene	<0.50		0.50		ug/L			06/14/12 16:36	1
cis-1,3-Dichloropropene	<0.50		0.50		ug/L			06/14/12 16:36	1
Dibromomethane	<0.50		0.50		ug/L			06/14/12 16:36	1
1,2-Dichlorobenzene	<0.50		0.50		ug/L			06/14/12 16:36	1
1,3-Dichlorobenzene	<0.50		0.50		ug/L			06/14/12 16:36	1
1,4-Dichlorobenzene	<0.50		0.50		ug/L			06/14/12 16:36	1
Dichlorobromomethane	<1.0		1.0		ug/L			06/14/12 16:36	1
1,1-Dichloroethane	<0.50		0.50		ug/L			06/14/12 16:36	1
1,2-Dichloroethane	<0.50		0.50		ug/L			06/14/12 16:36	1
1,1-Dichloroethene	<0.50		0.50		ug/L			06/14/12 16:36	1
1,2-Dichloropropane	<0.50		0.50		ug/L			06/14/12 16:36	1
1,3-Dichloropropane	<0.50		0.50		ug/L			06/14/12 16:36	1
2,2-Dichloropropane	<0.50		0.50		ug/L			06/14/12 16:36	1
1,1-Dichloropropene	<0.50		0.50		ug/L			06/14/12 16:36	1
Ethylbenzene	<0.50		0.50		ug/L			06/14/12 16:36	1
Methylene Chloride	<0.50		0.50		ug/L			06/14/12 16:36	1
Methyl tert-butyl ether	<0.50		0.50		ug/L			06/14/12 16:36	1
m-Xylene & p-Xylene	<0.50		0.50		ug/L			06/14/12 16:36	1
o-Xylene	<0.50		0.50		ug/L			06/14/12 16:36	1
Styrene	<0.50		0.50		ug/L			06/14/12 16:36	1
1,1,1,2-Tetrachloroethane	<0.50		0.50		ug/L			06/14/12 16:36	1
1,1,2,2-Tetrachloroethane	<0.50		0.50		ug/L			06/14/12 16:36	1
Tetrachloroethene	<0.50		0.50		ug/L			06/14/12 16:36	1
Toluene	<0.50		0.50		ug/L			06/14/12 16:36	1
trans-1,2-Dichloroethene	<0.50		0.50		ug/L			06/14/12 16:36	1
trans-1,3-Dichloropropene	<0.50		0.50		ug/L			06/14/12 16:36	1
1,2,4-Trichlorobenzene	<0.50		0.50		ug/L			06/14/12 16:36	1
1,1,1-Trichloroethane	<0.50		0.50		ug/L			06/14/12 16:36	1
1,1,2-Trichloroethane	<0.50		0.50		ug/L			06/14/12 16:36	1
Trichloroethene	<0.50		0.50		ug/L			06/14/12 16:36	1
1,2,3-Trichloropropane	<0.50		0.50		ug/L			06/14/12 16:36	1
Vinyl chloride	<0.50		0.50		ug/L			06/14/12 16:36	1
Xylenes, Total	<0.50		0.50		ug/L			06/14/12 16:36	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	115		70 - 130			1
1,2-Dichlorobenzene-d4	114		70 - 130			1

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-240453/3

Matrix: Water

Analysis Batch: 240453

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	Limits
Benzene	20.0	23.1		ug/L		116	70 - 130	
Bromobenzene	20.0	23.3		ug/L		116	70 - 130	
Bromoform	20.0	25.3		ug/L		127	70 - 130	
Bromomethane	20.0	18.3		ug/L		91	70 - 130	
Carbon tetrachloride	20.0	26.0		ug/L		130	70 - 130	
Chlorobenzene	20.0	23.3		ug/L		117	70 - 130	
Chlorodibromomethane	20.0	25.3		ug/L		127	70 - 130	
Chloroethane	20.0	17.2		ug/L		86	70 - 130	
Chloroform	20.0	24.8		ug/L		124	70 - 130	
Chloromethane	20.0	14.5		ug/L		72	70 - 130	
2-Chlorotoluene	20.0	24.2		ug/L		121	70 - 130	
4-Chlorotoluene	20.0	23.7		ug/L		119	70 - 130	
cis-1,2-Dichloroethene	20.0	22.4		ug/L		112	70 - 130	
cis-1,3-Dichloropropene	20.0	24.1		ug/L		121	70 - 130	
Dibromomethane	20.0	22.9		ug/L		115	70 - 130	
1,2-Dichlorobenzene	20.0	23.2		ug/L		116	70 - 130	
1,3-Dichlorobenzene	20.0	23.5		ug/L		118	70 - 130	
1,4-Dichlorobenzene	20.0	23.3		ug/L		116	70 - 130	
Dichlorobromomethane	20.0	25.1		ug/L		125	70 - 130	
1,1-Dichloroethane	20.0	23.2		ug/L		116	70 - 130	
1,2-Dichloroethane	20.0	23.2		ug/L		116	70 - 130	
1,1-Dichloroethene	20.0	21.9		ug/L		109	70 - 130	
1,2-Dichloropropene	20.0	22.8		ug/L		114	70 - 130	
1,3-Dichloropropene	20.0	23.0		ug/L		115	70 - 130	
2,2-Dichloropropane	20.0	25.0		ug/L		125	70 - 130	
1,1-Dichloropropene	20.0	24.4		ug/L		122	70 - 130	
Ethylbenzene	20.0	24.3		ug/L		122	70 - 130	
Methylene Chloride	20.0	23.1		ug/L		116	70 - 130	
Methyl tert-butyl ether	16.0	18.9		ug/L		118	70 - 130	
m-Xylene & p-Xylene	40.0	47.5		ug/L		119	70 - 130	
o-Xylene	20.0	24.3		ug/L		121	70 - 130	
Styrene	20.0	24.2		ug/L		121	70 - 130	
1,1,1,2-Tetrachloroethane	20.0	23.9		ug/L		119	70 - 130	
1,1,2,2-Tetrachloroethane	20.0	22.0		ug/L		110	70 - 130	
Tetrachloroethene	20.0	22.6		ug/L		113	70 - 130	
Toluene	20.0	23.5		ug/L		117	70 - 130	
trans-1,2-Dichloroethene	20.0	22.9		ug/L		114	70 - 130	
trans-1,3-Dichloropropene	20.0	24.2		ug/L		121	70 - 130	
1,2,4-Trichlorobenzene	20.0	25.4		ug/L		127	70 - 130	
1,1,1-Trichloroethane	20.0	24.7		ug/L		124	70 - 130	
1,1,2-Trichloroethane	20.0	22.8		ug/L		114	70 - 130	
Trichloroethene	20.0	23.4		ug/L		117	70 - 130	
1,2,3-Trichloropropane	20.0	23.7		ug/L		119	70 - 130	
Vinyl chloride	20.0	15.7		ug/L		79	70 - 130	
Xylenes, Total	60.0	71.8		ug/L		120	70 - 130	

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	126		70 - 130
1,2-Dichlorobenzene-d4	124		70 - 130

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-240453/4

Matrix: Water

Analysis Batch: 240453

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	20.0	21.8		ug/L	109	70 - 130	6	30	
Bromobenzene	20.0	22.7		ug/L	114	70 - 130	2	30	
Bromoform	20.0	24.6		ug/L	123	70 - 130	3	30	
Bromomethane	20.0	15.8		ug/L	79	70 - 130	15	30	
Carbon tetrachloride	20.0	24.2		ug/L	121	70 - 130	7	30	
Chlorobenzene	20.0	22.2		ug/L	111	70 - 130	5	30	
Chlorodibromomethane	20.0	24.4		ug/L	122	70 - 130	4	30	
Chloroethane	20.0	16.7		ug/L	84	70 - 130	3	30	
Chloroform	20.0	23.4		ug/L	117	70 - 130	6	30	
Chloromethane	20.0	13.8 *		ug/L	69	70 - 130	5	30	
2-Chlorotoluene	20.0	22.9		ug/L	114	70 - 130	6	30	
4-Chlorotoluene	20.0	22.9		ug/L	114	70 - 130	4	30	
cis-1,2-Dichloroethene	20.0	21.6		ug/L	108	70 - 130	4	30	
cis-1,3-Dichloropropene	20.0	23.3		ug/L	116	70 - 130	4	30	
Dibromomethane	20.0	21.8		ug/L	109	70 - 130	5	30	
1,2-Dichlorobenzene	20.0	22.6		ug/L	113	70 - 130	3	30	
1,3-Dichlorobenzene	20.0	22.6		ug/L	113	70 - 130	4	30	
1,4-Dichlorobenzene	20.0	22.4		ug/L	112	70 - 130	4	30	
Dichlorobromomethane	20.0	23.9		ug/L	119	70 - 130	5	30	
1,1-Dichloroethane	20.0	22.9		ug/L	114	70 - 130	1	30	
1,2-Dichloroethane	20.0	22.3		ug/L	112	70 - 130	4	30	
1,1-Dichloroethene	20.0	20.6		ug/L	103	70 - 130	6	30	
1,2-Dichloropropane	20.0	21.7		ug/L	109	70 - 130	5	30	
1,3-Dichloropropane	20.0	22.2		ug/L	111	70 - 130	3	30	
2,2-Dichloropropane	20.0	24.3		ug/L	121	70 - 130	3	30	
1,1-Dichloropropene	20.0	23.4		ug/L	117	70 - 130	4	30	
Ethylbenzene	20.0	23.4		ug/L	117	70 - 130	4	30	
Methylene Chloride	20.0	22.3		ug/L	111	70 - 130	4	30	
Methyl tert-butyl ether	16.0	18.2		ug/L	114	70 - 130	4	30	
m-Xylene & p-Xylene	40.0	45.7		ug/L	114	70 - 130	4	30	
o-Xylene	20.0	23.0		ug/L	115	70 - 130	6	30	
Styrene	20.0	23.6		ug/L	118	70 - 130	3	30	
1,1,1,2-Tetrachloroethane	20.0	23.2		ug/L	116	70 - 130	3	30	
1,1,2,2-Tetrachloroethane	20.0	21.8		ug/L	109	70 - 130	1	30	
Tetrachloroethene	20.0	22.2		ug/L	111	70 - 130	2	30	
Toluene	20.0	22.5		ug/L	113	70 - 130	4	30	
trans-1,2-Dichloroethene	20.0	21.8		ug/L	109	70 - 130	5	30	
trans-1,3-Dichloropropene	20.0	23.4		ug/L	117	70 - 130	4	30	
1,2,4-Trichlorobenzene	20.0	23.4		ug/L	117	70 - 130	8	30	
1,1,1-Trichloroethane	20.0	23.2		ug/L	116	70 - 130	6	30	
1,1,2-Trichloroethane	20.0	22.4		ug/L	112	70 - 130	2	30	
Trichloroethene	20.0	22.2		ug/L	111	70 - 130	5	30	
1,2,3-Trichloropropane	20.0	22.3		ug/L	112	70 - 130	6	30	
Vinyl chloride	20.0	15.3		ug/L	77	70 - 130	3	30	
Xylenes, Total	60.0	68.7		ug/L	115	70 - 130	4	30	

Surrogate	LCSD	LCSD
	%Recovery	Qualifier
4-Bromofluorobenzene	121	70 - 130
1,2-Dichlorobenzene-d4	124	70 - 130

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 680-240633/6

Matrix: Water

Analysis Batch: 240633

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	<0.50		0.50		ug/L			06/17/12 21:56	1
Bromobenzene	<0.50		0.50		ug/L			06/17/12 21:56	1
Bromoform	<0.50		0.50		ug/L			06/17/12 21:56	1
Bromomethane	<1.0		1.0		ug/L			06/17/12 21:56	1
Carbon tetrachloride	<0.50		0.50		ug/L			06/17/12 21:56	1
Chlorobenzene	<0.50		0.50		ug/L			06/17/12 21:56	1
Chlorodibromomethane	<0.50		0.50		ug/L			06/17/12 21:56	1
Chloroethane	<1.0		1.0		ug/L			06/17/12 21:56	1
Chloroform	<0.50		0.50		ug/L			06/17/12 21:56	1
Chloromethane	<0.50		0.50		ug/L			06/17/12 21:56	1
2-Chlorotoluene	<0.50		0.50		ug/L			06/17/12 21:56	1
4-Chlorotoluene	<0.50		0.50		ug/L			06/17/12 21:56	1
cis-1,2-Dichloroethene	<0.50		0.50		ug/L			06/17/12 21:56	1
cis-1,3-Dichloropropene	<0.50		0.50		ug/L			06/17/12 21:56	1
Dibromomethane	<0.50		0.50		ug/L			06/17/12 21:56	1
1,2-Dichlorobenzene	<0.50		0.50		ug/L			06/17/12 21:56	1
1,3-Dichlorobenzene	<0.50		0.50		ug/L			06/17/12 21:56	1
1,4-Dichlorobenzene	<0.50		0.50		ug/L			06/17/12 21:56	1
Dichlorobromomethane	<1.0		1.0		ug/L			06/17/12 21:56	1
1,1-Dichloroethane	<0.50		0.50		ug/L			06/17/12 21:56	1
1,2-Dichloroethane	<0.50		0.50		ug/L			06/17/12 21:56	1
1,1-Dichloroethene	<0.50		0.50		ug/L			06/17/12 21:56	1
1,2-Dichloropropane	<0.50		0.50		ug/L			06/17/12 21:56	1
1,3-Dichloropropane	<0.50		0.50		ug/L			06/17/12 21:56	1
2,2-Dichloropropane	<0.50		0.50		ug/L			06/17/12 21:56	1
1,1-Dichloropropene	<0.50		0.50		ug/L			06/17/12 21:56	1
Ethylbenzene	<0.50		0.50		ug/L			06/17/12 21:56	1
Methylene Chloride	<0.50		0.50		ug/L			06/17/12 21:56	1
Methyl tert-butyl ether	<0.50		0.50		ug/L			06/17/12 21:56	1
m-Xylene & p-Xylene	<0.50		0.50		ug/L			06/17/12 21:56	1
o-Xylene	<0.50		0.50		ug/L			06/17/12 21:56	1
Styrene	<0.50		0.50		ug/L			06/17/12 21:56	1
1,1,1,2-Tetrachloroethane	<0.50		0.50		ug/L			06/17/12 21:56	1
1,1,2,2-Tetrachloroethane	<0.50		0.50		ug/L			06/17/12 21:56	1
Tetrachloroethene	<0.50		0.50		ug/L			06/17/12 21:56	1
Toluene	<0.50		0.50		ug/L			06/17/12 21:56	1
trans-1,2-Dichloroethene	<0.50		0.50		ug/L			06/17/12 21:56	1
trans-1,3-Dichloropropene	<0.50		0.50		ug/L			06/17/12 21:56	1
1,2,4-Trichlorobenzene	<0.50		0.50		ug/L			06/17/12 21:56	1
1,1,1-Trichloroethane	<0.50		0.50		ug/L			06/17/12 21:56	1
1,1,2-Trichloroethane	<0.50		0.50		ug/L			06/17/12 21:56	1
Trichloroethene	<0.50		0.50		ug/L			06/17/12 21:56	1
1,2,3-Trichloropropane	<0.50		0.50		ug/L			06/17/12 21:56	1
Vinyl chloride	<0.50		0.50		ug/L			06/17/12 21:56	1
Xylenes, Total	<0.50		0.50		ug/L			06/17/12 21:56	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	101		70 - 130			1
1,2-Dichlorobenzene-d4	102		70 - 130			1

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-240633/3

Matrix: Water

Analysis Batch: 240633

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	20.0	20.3		ug/L	102	70 - 130	
Bromobenzene	20.0	23.1		ug/L	116	70 - 130	
Bromoform	20.0	22.0		ug/L	110	70 - 130	
Bromomethane	20.0	18.3		ug/L	91	70 - 130	
Carbon tetrachloride	20.0	23.8		ug/L	119	70 - 130	
Chlorobenzene	20.0	21.9		ug/L	109	70 - 130	
Chlorodibromomethane	20.0	23.6		ug/L	118	70 - 130	
Chloroethane	20.0	19.5		ug/L	97	70 - 130	
Chloroform	20.0	20.6		ug/L	103	70 - 130	
Chloromethane	20.0	20.2		ug/L	101	70 - 130	
2-Chlorotoluene	20.0	21.6		ug/L	108	70 - 130	
4-Chlorotoluene	20.0	21.7		ug/L	109	70 - 130	
cis-1,2-Dichloroethene	20.0	20.9		ug/L	104	70 - 130	
cis-1,3-Dichloropropene	20.0	20.9		ug/L	104	70 - 130	
Dibromomethane	20.0	20.9		ug/L	104	70 - 130	
1,2-Dichlorobenzene	20.0	22.7		ug/L	113	70 - 130	
1,3-Dichlorobenzene	20.0	23.0		ug/L	115	70 - 130	
1,4-Dichlorobenzene	20.0	22.3		ug/L	112	70 - 130	
Dichlorobromomethane	20.0	21.6		ug/L	108	70 - 130	
1,1-Dichloroethane	20.0	20.4		ug/L	102	70 - 130	
1,2-Dichloroethane	20.0	20.1		ug/L	100	70 - 130	
1,1-Dichloroethene	20.0	20.7		ug/L	104	70 - 130	
1,2-Dichloropropene	20.0	20.3		ug/L	102	70 - 130	
1,3-Dichloropropene	20.0	19.8		ug/L	99	70 - 130	
2,2-Dichloropropene	20.0	22.2		ug/L	111	70 - 130	
1,1-Dichloropropene	20.0	20.8		ug/L	104	70 - 130	
Ethylbenzene	20.0	21.8		ug/L	109	70 - 130	
Methylene Chloride	20.0	20.2		ug/L	101	70 - 130	
Methyl tert-butyl ether	16.0	15.5		ug/L	97	70 - 130	
m-Xylene & p-Xylene	40.0	44.1		ug/L	110	70 - 130	
o-Xylene	20.0	21.9		ug/L	109	70 - 130	
Styrene	20.0	22.5		ug/L	113	70 - 130	
1,1,1,2-Tetrachloroethane	20.0	23.3		ug/L	117	70 - 130	
1,1,2,2-Tetrachloroethane	20.0	19.5		ug/L	97	70 - 130	
Tetrachloroethene	20.0	23.0		ug/L	115	70 - 130	
Toluene	20.0	21.6		ug/L	108	70 - 130	
trans-1,2-Dichloroethene	20.0	21.0		ug/L	105	70 - 130	
trans-1,3-Dichloropropene	20.0	21.6		ug/L	108	70 - 130	
1,2,4-Trichlorobenzene	20.0	19.9		ug/L	99	70 - 130	
1,1,1-Trichloroethane	20.0	21.9		ug/L	110	70 - 130	
1,1,2-Trichloroethane	20.0	20.5		ug/L	103	70 - 130	
Trichloroethene	20.0	21.3		ug/L	107	70 - 130	
1,2,3-Trichloropropane	20.0	20.4		ug/L	102	70 - 130	
Vinyl chloride	20.0	20.6		ug/L	103	70 - 130	
Xylenes, Total	60.0	66.0		ug/L	110	70 - 130	

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	110		70 - 130
1,2-Dichlorobenzene-d4	114		70 - 130

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-240633/4

Matrix: Water

Analysis Batch: 240633

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	20.0	20.1		ug/L	100	70 - 130	1	30	
Bromobenzene	20.0	22.6		ug/L	113	70 - 130	2	30	
Bromoform	20.0	21.9		ug/L	109	70 - 130	0	30	
Bromomethane	20.0	17.9		ug/L	89	70 - 130	2	30	
Carbon tetrachloride	20.0	23.6		ug/L	118	70 - 130	1	30	
Chlorobenzene	20.0	21.8		ug/L	109	70 - 130	0	30	
Chlorodibromomethane	20.0	23.8		ug/L	119	70 - 130	1	30	
Chloroethane	20.0	19.6		ug/L	98	70 - 130	0	30	
Chloroform	20.0	20.6		ug/L	103	70 - 130	0	30	
Chloromethane	20.0	19.9		ug/L	100	70 - 130	1	30	
2-Chlorotoluene	20.0	21.5		ug/L	107	70 - 130	0	30	
4-Chlorotoluene	20.0	21.6		ug/L	108	70 - 130	0	30	
cis-1,2-Dichloroethene	20.0	20.6		ug/L	103	70 - 130	1	30	
cis-1,3-Dichloropropene	20.0	21.2		ug/L	106	70 - 130	1	30	
Dibromomethane	20.0	20.6		ug/L	103	70 - 130	1	30	
1,2-Dichlorobenzene	20.0	22.4		ug/L	112	70 - 130	1	30	
1,3-Dichlorobenzene	20.0	22.9		ug/L	115	70 - 130	0	30	
1,4-Dichlorobenzene	20.0	22.3		ug/L	112	70 - 130	0	30	
Dichlorobromomethane	20.0	21.4		ug/L	107	70 - 130	1	30	
1,1-Dichloroethane	20.0	20.4		ug/L	102	70 - 130	0	30	
1,2-Dichloroethane	20.0	19.8		ug/L	99	70 - 130	2	30	
1,1-Dichloroethene	20.0	21.0		ug/L	105	70 - 130	1	30	
1,2-Dichloropropane	20.0	19.7		ug/L	98	70 - 130	3	30	
1,3-Dichloropropane	20.0	19.1		ug/L	96	70 - 130	3	30	
2,2-Dichloropropane	20.0	21.9		ug/L	110	70 - 130	1	30	
1,1-Dichloropropene	20.0	20.9		ug/L	105	70 - 130	1	30	
Ethylbenzene	20.0	21.7		ug/L	109	70 - 130	0	30	
Methylene Chloride	20.0	19.9		ug/L	99	70 - 130	2	30	
Methyl tert-butyl ether	16.0	15.8		ug/L	99	70 - 130	2	30	
m-Xylene & p-Xylene	40.0	44.6		ug/L	112	70 - 130	1	30	
o-Xylene	20.0	21.7		ug/L	109	70 - 130	1	30	
Styrene	20.0	22.6		ug/L	113	70 - 130	0	30	
1,1,1,2-Tetrachloroethane	20.0	23.3		ug/L	117	70 - 130	0	30	
1,1,2,2-Tetrachloroethane	20.0	19.2		ug/L	96	70 - 130	2	30	
Tetrachloroethene	20.0	23.3		ug/L	117	70 - 130	1	30	
Toluene	20.0	21.6		ug/L	108	70 - 130	0	30	
trans-1,2-Dichloroethene	20.0	21.1		ug/L	105	70 - 130	0	30	
trans-1,3-Dichloropropene	20.0	21.6		ug/L	108	70 - 130	0	30	
1,2,4-Trichlorobenzene	20.0	21.0		ug/L	105	70 - 130	6	30	
1,1,1-Trichloroethane	20.0	22.1		ug/L	111	70 - 130	1	30	
1,1,2-Trichloroethane	20.0	20.4		ug/L	102	70 - 130	0	30	
Trichloroethene	20.0	21.7		ug/L	108	70 - 130	2	30	
1,2,3-Trichloropropane	20.0	20.7		ug/L	104	70 - 130	1	30	
Vinyl chloride	20.0	21.2		ug/L	106	70 - 130	3	30	
Xylenes, Total	60.0	66.3		ug/L	111	70 - 130	0	30	

Surrogate	LCSD	LCSD	
	%Recovery	Qualifier	Limits
4-Bromofluorobenzene	108		70 - 130
1,2-Dichlorobenzene-d4	115		70 - 130

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 660-125214/5

Matrix: Water

Analysis Batch: 125214

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	<2.0		2.0		ug/L			06/06/12 09:24	1

Client Sample ID: Method Blank

Prep Type: Total/NA

Lab Sample ID: LCS 660-125214/3

Matrix: Water

Analysis Batch: 125214

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec.	Limits
1,4-Dioxane	25.0	25.8		ug/L		103	50 - 150

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

QC Association Summary

Client: AECOM, Inc.
Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

GC/MS VOA

Analysis Batch: 125214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-79994-13	MW06-060112	Total/NA	Water	8260C SIM	
LCS 660-125214/3	Lab Control Sample	Total/NA	Water	8260C SIM	
MB 660-125214/5	Method Blank	Total/NA	Water	8260C SIM	

Analysis Batch: 239863

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-79994-1	MW02D-053012	Total/NA	Water	524.2	
LCS 680-239863/3	Lab Control Sample	Total/NA	Water	524.2	
LCSD 680-239863/4	Lab Control Sample Dup	Total/NA	Water	524.2	
MB 680-239863/6	Method Blank	Total/NA	Water	524.2	

Analysis Batch: 240176

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-79994-1	MW02D-053012	Total/NA	Water	524.2	
LCS 680-240176/3	Lab Control Sample	Total/NA	Water	524.2	
LCSD 680-240176/4	Lab Control Sample Dup	Total/NA	Water	524.2	
MB 680-240176/6	Method Blank	Total/NA	Water	524.2	

Analysis Batch: 240294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-79994-2	MW04D-053012	Total/NA	Water	524.2	
680-79994-3	MW06-060112	Total/NA	Water	524.2	
680-79994-4	MW07D-060112	Total/NA	Water	524.2	
680-79994-5	MW08-053112	Total/NA	Water	524.2	
680-79994-6	MWP1-053012	Total/NA	Water	524.2	
680-79994-9	GSSMW15-053012	Total/NA	Water	524.2	
680-79994-11	TB-053012	Total/NA	Water	524.2	
LCS 680-240294/3	Lab Control Sample	Total/NA	Water	524.2	
LCSD 680-240294/4	Lab Control Sample Dup	Total/NA	Water	524.2	
MB 680-240294/6	Method Blank	Total/NA	Water	524.2	

Analysis Batch: 240306

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-79994-7	GSSMW08-053112	Total/NA	Water	524.2	
680-79994-8	GSSMW09-053112	Total/NA	Water	524.2	
680-79994-12	EB-060112	Total/NA	Water	524.2	
LCS 680-240306/9	Lab Control Sample	Total/NA	Water	524.2	
LCSD 680-240306/10	Lab Control Sample Dup	Total/NA	Water	524.2	
MB 680-240306/12	Method Blank	Total/NA	Water	524.2	

Analysis Batch: 240452

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-79994-2	MW04D-053012	Total/NA	Water	524.2	
680-79994-3	MW06-060112	Total/NA	Water	524.2	
680-79994-6	MWP1-053012	Total/NA	Water	524.2	
LCS 680-240452/3	Lab Control Sample	Total/NA	Water	524.2	
LCSD 680-240452/4	Lab Control Sample Dup	Total/NA	Water	524.2	
MB 680-240452/6	Method Blank	Total/NA	Water	524.2	

Analysis Batch: 240453

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-79994-9	GSSMW15-053012	Total/NA	Water	524.2	

QC Association Summary

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

GC/MS VOA (Continued)

Analysis Batch: 240453 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-79994-10	Dupe 01-053112	Total/NA	Water	524.2	
LCS 680-240453/3	Lab Control Sample	Total/NA	Water	524.2	
LCSD 680-240453/4	Lab Control Sample Dup	Total/NA	Water	524.2	
MB 680-240453/6	Method Blank	Total/NA	Water	524.2	

Analysis Batch: 240633

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-79994-10 - RA	Dupe 01-053112	Total/NA	Water	524.2	
LCS 680-240633/3	Lab Control Sample	Total/NA	Water	524.2	
LCSD 680-240633/4	Lab Control Sample Dup	Total/NA	Water	524.2	
MB 680-240633/6	Method Blank	Total/NA	Water	524.2	

Lab Chronicle

Client: AECOM, Inc.
Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Client Sample ID: MW02D-053012

Lab Sample ID: 680-79994-1

Matrix: Water

Date Collected: 05/30/12 15:18

Date Received: 06/02/12 09:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	524.2		1	239863	06/10/12 23:27	WJC	TAL SAV
Total/NA	Analysis	524.2		10	240176	06/13/12 01:00	WJC	TAL SAV

Client Sample ID: MW04D-053012

Lab Sample ID: 680-79994-2

Matrix: Water

Date Collected: 05/30/12 11:55

Date Received: 06/02/12 09:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	524.2		1	240294	06/13/12 17:34	WJC	TAL SAV
Total/NA	Analysis	524.2		2	240452	06/14/12 19:53	WJC	TAL SAV

Client Sample ID: MW06-060112

Lab Sample ID: 680-79994-3

Matrix: Water

Date Collected: 06/01/12 10:35

Date Received: 06/02/12 09:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	524.2		1	240294	06/13/12 23:28	WJC	TAL SAV
Total/NA	Analysis	524.2		5	240452	06/14/12 20:21	WJC	TAL SAV

Client Sample ID: MW07D-060112

Lab Sample ID: 680-79994-4

Matrix: Water

Date Collected: 06/01/12 12:00

Date Received: 06/02/12 09:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	524.2		1	240294	06/13/12 23:55	WJC	TAL SAV

Client Sample ID: MW08-053112

Lab Sample ID: 680-79994-5

Matrix: Water

Date Collected: 05/31/12 10:55

Date Received: 06/02/12 09:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	524.2		1	240294	06/14/12 00:22	WJC	TAL SAV

Client Sample ID: MWP1-053012

Lab Sample ID: 680-79994-6

Matrix: Water

Date Collected: 05/30/12 13:40

Date Received: 06/02/12 09:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	524.2		1	240294	06/13/12 18:01	WJC	TAL SAV
Total/NA	Analysis	524.2		2	240452	06/14/12 20:48	WJC	TAL SAV

Lab Chronicle

Client: AECOM, Inc.
Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Client Sample ID: GSSMW08-053112

Date Collected: 05/31/12 13:06
Date Received: 06/02/12 09:22

Lab Sample ID: 680-79994-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	524.2		1	240306	06/14/12 02:04	WJC	TAL SAV

Client Sample ID: GSSMW09-053112

Date Collected: 05/31/12 16:30
Date Received: 06/02/12 09:22

Lab Sample ID: 680-79994-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	524.2		1	240306	06/14/12 02:27	WJC	TAL SAV

Client Sample ID: GSSMW15-053012

Date Collected: 05/30/12 16:45
Date Received: 06/02/12 09:22

Lab Sample ID: 680-79994-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	524.2		1	240294	06/13/12 18:28	WJC	TAL SAV
Total/NA	Analysis	524.2		2	240453	06/14/12 19:42	WJC	TAL SAV

Client Sample ID: Dupe 01-053112

Date Collected: 05/31/12 00:00
Date Received: 06/02/12 09:22

Lab Sample ID: 680-79994-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	524.2		2	240453	06/14/12 20:04	WJC	TAL SAV
Total/NA	Analysis	524.2	RA	1	240633	06/17/12 23:54	ES	TAL SAV

Client Sample ID: TB-053012

Date Collected: 05/30/12 00:00
Date Received: 06/02/12 09:22

Lab Sample ID: 680-79994-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	524.2		1	240294	06/13/12 18:55	WJC	TAL SAV

Client Sample ID: EB-060112

Date Collected: 06/01/12 17:00
Date Received: 06/02/12 09:22

Lab Sample ID: 680-79994-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	524.2		1	240306	06/14/12 01:42	WJC	TAL SAV

Lab Chronicle

Client: AECOM, Inc.
Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Client Sample ID: MW06-060112

Lab Sample ID: 680-79994-13

Date Collected: 06/01/12 10:35
Date Received: 06/02/12 09:22

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C SIM		1	125214	06/06/12 11:06	EC	TAL TAM

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

TAL TAM = TestAmerica Tampa, 6712 Benjamin Road, Suite 100, Tampa, FL 33634, TEL (813)885-7427

TestAmerica

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

THE LEADER IN ENVIRONMENTAL TESTING

Phone:
Fax:

Alternate Laboratory Name/Location

PROJECT REFERENCE <i>Franklin Solutions Site</i>	PROJECT NO.	PROJECT LOCATION (STATE) <i>GA</i>	MATRIX TYPE	REQUIRED ANALYSIS				PAGE /	OF /
				CONTRACT NO.	CLIENT FAX	STANDARD REPORT	DATE DUE		
Linda Gildner Ron Roelker	P.O. NUMBER 513-878-6841	CLIENT PHONE 513-878-6848	AIR	X	X	X	X		
CLIENT NAME <i>Testcom</i>	CLIENT E-MAIL <i>Ron.Roelker@testcom.com</i>	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	EXPEDITED REPORT						
CLIENT ADDRESS <i>412 1/2 Halsbury Rd, Canton, GA 30341</i>	COMPONENT (G) OR GRAB (g) INDICATE	SOLID OR SEMISOLID	DELIVERY (SURCHARGE)	DATE DUE					
COMPANY CONTRACTING THIS WORK (if applicable)	AQUEOUS (WATER)	NUMBER OF COOLERS SUBMITTED	PER SHIPMENT:	/					
SAMPLE IDENTIFICATION				NUMBER OF CONTAINERS SUBMITTED				REMARKS	
SAMPLE	DATE	TIME							
5/30/12 1518	MW020 - 053012	6X	3						
5/30/12 1155	MW040 - 053012	X	3						
6/1/12 1035	MW06 - 060112	X	3						
6/1/12 1200	MW070 - 060112	X	3						
5/31/12 1055	MW08 - 053112	X	3						
5/30/12 1340	MW01 - 053012	X	3						
5/31/12 1306	GSSM08 - 053112	X	3						
5/31/12 1630	GSSM09 - 053112	X	3						
5/30/12 1645	GSSM15 - 053012	X	3						
5/31/12	Dipe 01 - 053112	X	3						
5/30/12	TB - 053012	X	2						
6/1/12 1700	EB - 060112	6X	3						
RELINQUISHED BY: (SIGNATURE) <i>John D. Daughtrey</i>	DATE 6/1/12	TIME 1730	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	
RECEIVED BY: (SIGNATURE) <i>John D. Daughtrey</i>	DATE 6/1/12	TIME 0423	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	
LABORATORY USE ONLY									
RECEIVED FOR LABORATORY BY: <i>Beth A. Daughtrey</i>	DATE 6/1/12	TIME 0423	CUSTODY INTACT YES <input checked="" type="radio"/> NO <input type="radio"/>	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS			

TestAmerica

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

THE LEADER IN ENVIRONMENTAL TESTING

► TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Phone:
Fax:

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

PROJECT REFERENCE		PROJECT NO.	PROJECT LOCATION (STATE)	MATRIX TYPE	REQUIRED ANALYSIS		PAGE /	OF /
TAI (LAB) PROJECT MANAGER	PO. NUMBER		CONTRACT NO.					
✓ Linda Cullinan								
CLIENT (SITE) PM	CLIENT PHONE	513-875-6841	CLIENT FAX					
Ron Reckler								
CLIENT NAME	CLIENT E-MAIL							
✓ JC COY	Kon.Rae@comcast.net							
CLIENT ADDRESS								
4219 Melrose Rd., Cincinnati, OH 45242								
COMPANY CONTRACTING THIS WORK (if applicable)								
SAMPLE		SAMPLE IDENTIFICATION		NUMBER OF CONTAINERS SUBMITTED		REMARKS		
DATE	TIME			3				
6/1/12	1035	1W06-#60112						
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RElinquished by: (Signature)	DATE	TIME
✓ Linda Cullinan	6/1/12	1730	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
RECEIVED BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS		
✓ Linda Cullinan	6/1/12	0930	YES <input checked="" type="checkbox"/>		686-19994	Temp 24°C		
RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME						
Bethany Daugherty	6/1/12	0930						
TAI 8241-680 (100R)								
1	2	3	4	5	6	7	8	9
10	11	12	13	14	15			

Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 680-79994-1

Login Number: 79994

List Source: TestAmerica Savannah

List Number: 1

Creator: Daughtry, Beth

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.2 C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	Insufficient volume received for MS/MSD.
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 680-79994-1

Login Number: 79994

List Source: TestAmerica Tampa

List Number: 1

List Creation: 06/05/12 03:51 PM

Creator: McNulty, Carol

Question	Answer	Comment	
Radioactivity either was not measured or, if measured, is at or below background	True		1
The cooler's custody seal, if present, is intact.	True		2
The cooler or samples do not appear to have been compromised or tampered with.	True		3
Samples were received on ice.	True		4
Cooler Temperature is acceptable.	True		5
Cooler Temperature is recorded.	True		6
COC is present.	True		7
COC is filled out in ink and legible.	True		8
COC is filled out with all pertinent information.	True		9
Is the Field Sampler's name present on COC?	True		10
There are no discrepancies between the sample IDs on the containers and the COC.	True		11
Samples are received within Holding Time.	True		12
Sample containers have legible labels.	True		13
Containers are not broken or leaking.	True		14
Sample collection date/times are provided.	True		15
Appropriate sample containers are used.	True		
Sample bottles are completely filled.	True		
Sample Preservation Verified.	True		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True		
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True		
Multiphasic samples are not present.	True		
Samples do not require splitting or compositing.	True		
Residual Chlorine Checked.	True		

Certification Summary

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79994-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Savannah	A2LA	DoD ELAP		0399-01
TestAmerica Savannah	A2LA	ISO/IEC 17025		399.01
TestAmerica Savannah	Alabama	State Program	4	41450
TestAmerica Savannah	Arkansas DEQ	State Program	6	88-0692
TestAmerica Savannah	California	NELAC	9	3217CA
TestAmerica Savannah	Colorado	State Program	8	N/A
TestAmerica Savannah	Connecticut	State Program	1	PH-0161
TestAmerica Savannah	Florida	NELAC	4	E87052
TestAmerica Savannah	GA Dept. of Agriculture	State Program	4	N/A
TestAmerica Savannah	Georgia	State Program	4	803
TestAmerica Savannah	Georgia	State Program	4	N/A
TestAmerica Savannah	Guam	State Program	9	09-005r
TestAmerica Savannah	Hawaii	State Program	9	N/A
TestAmerica Savannah	Illinois	NELAC	5	200022
TestAmerica Savannah	Indiana	State Program	5	N/A
TestAmerica Savannah	Iowa	State Program	7	353
TestAmerica Savannah	Kentucky	State Program	4	90084
TestAmerica Savannah	Kentucky (UST)	State Program	4	18
TestAmerica Savannah	Louisiana	NELAC	6	30690
TestAmerica Savannah	Louisiana	NELAC	6	LA100015
TestAmerica Savannah	Maine	State Program	1	GA00006
TestAmerica Savannah	Maryland	State Program	3	250
TestAmerica Savannah	Massachusetts	State Program	1	M-GA006
TestAmerica Savannah	Michigan	State Program	5	9925
TestAmerica Savannah	Mississippi	State Program	4	N/A
TestAmerica Savannah	Montana	State Program	8	CERT0081
TestAmerica Savannah	Nebraska	State Program	7	TestAmerica-Savannah
TestAmerica Savannah	New Jersey	NELAC	2	GA769
TestAmerica Savannah	New Mexico	State Program	6	N/A
TestAmerica Savannah	New York	NELAC	2	10842
TestAmerica Savannah	North Carolina DENR	State Program	4	269
TestAmerica Savannah	North Carolina DHHS	State Program	4	13701
TestAmerica Savannah	Oklahoma	State Program	6	9984
TestAmerica Savannah	Pennsylvania	NELAC	3	68-00474
TestAmerica Savannah	Puerto Rico	State Program	2	GA00006
TestAmerica Savannah	Rhode Island	State Program	1	LAO00244
TestAmerica Savannah	South Carolina	State Program	4	98001
TestAmerica Savannah	Tennessee	State Program	4	TN02961
TestAmerica Savannah	Texas	NELAC	6	T104704185-08-TX
TestAmerica Savannah	USDA	Federal		SAV 3-04
TestAmerica Savannah	Vermont	State Program	1	87052
TestAmerica Savannah	Washington	State Program	10	C1794
TestAmerica Savannah	West Virginia	State Program	3	9950C
TestAmerica Savannah	West Virginia DEP	State Program	3	94
TestAmerica Savannah	Wisconsin	State Program	5	999819810
TestAmerica Savannah	Wyoming	State Program	8	8TMS-Q
TestAmerica Tampa	Alabama	State Program	4	40610
TestAmerica Tampa	Florida	NELAC	4	E84282
TestAmerica Tampa	Georgia	State Program	4	905
TestAmerica Tampa	USDA	Federal		P330-11-00177

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Appendix E

Groundwater Analytical Report – Vertical and Grab

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Savannah

5102 LaRoche Avenue

Savannah, GA 31404

Tel: (912)354-7858

TestAmerica Job ID: 680-80212-2

Client Project/Site: Granville - VOC -I JUNE 2012

For:

AECOM, Inc.

4219 Malsbary Drive

Cincinnati, Ohio 45242

Attn: Michael Papp



Authorized for release by:

6/26/2012 12:19:18 AM

Lidya Gulizia

Project Manager II

lidya.gulizia@testamericainc.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Sample Summary	4
Method Summary	5
Definitions	6
Detection Summary	7
Client Sample Results	9
Surrogate Summary	20
QC Sample Results	21
QC Association	31
Chronicle	32
Chain of Custody	34
Receipt Checklists	36
Certification Summary	37

Case Narrative

Client: AECOM, Inc.

Project/Site: Granville - VOC -I JUNE 2012

TestAmerica Job ID: 680-80212-2

Job ID: 680-80212-2

Laboratory: TestAmerica Savannah

Narrative

CASE NARRATIVE

Client: AECOM, Inc.

Project: Granville - VOC -I JUNE 2012

Report Number: 680-80212-2

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 06/09/2012; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 5.0 C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples DG1-060512 (680-80212-1), DG2-060512 (680-80212-2), DG3-060512 (680-80212-3), DG4-060512 (680-80212-4), VG1-25-060612 (680-80212-5), VG1-35-060612 (680-80212-6), VG1-45-060612 (680-80212-7), VG1-55-060612 (680-80212-8), VG1-65-060612 (680-80212-9), Dupe01-060612 (680-80212-10) and TB-060512 (680-80212-15) were analyzed for Volatile organic Compounds (GC-MS) in accordance with EPA Method 524.2. The samples were analyzed on 06/18/2012 and 06/20/2012.

The method blank for batch 241019 contained 1,2,4-trichlorobenzene above the method detection limit (MDL). This target analyte concentration was less than one-half the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

A full list spike was utilized for this method. Due to the large number of spiked analytes, there is a high probability that one or more analytes will recover outside acceptance limits. The laboratory's SOP allows for four analytes to recover outside criteria for this method when a full list spike is utilized. The MS/MSD associated with batch 241021 had three analytes outside control limits; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

The matrix spike / matrix spike duplicate (MS/MSD) precision for batch 241021 was outside control limits. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision met acceptance criteria.

Sample VG1-35-060612 (680-80212-6)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No other difficulties were encountered during the volatiles analyses.

All other quality control parameters were within the acceptance limits.

Sample Summary

Client: AECOM, Inc.

Project/Site: Granville - VOC -I JUNE 2012

TestAmerica Job ID: 680-80212-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-80212-1	DG1-060512	Water	06/05/12 17:35	06/09/12 09:39
680-80212-2	DG2-060512	Water	06/05/12 12:40	06/09/12 09:39
680-80212-3	DG3-060512	Water	06/05/12 14:20	06/09/12 09:39
680-80212-4	DG4-060512	Water	06/05/12 16:20	06/09/12 09:39
680-80212-5	VG1-25-060612	Water	06/06/12 18:55	06/09/12 09:39
680-80212-6	VG1-35-060612	Water	06/06/12 18:30	06/09/12 09:39
680-80212-7	VG1-45-060612	Water	06/06/12 18:00	06/09/12 09:39
680-80212-8	VG1-55-060612	Water	06/06/12 17:30	06/09/12 09:39
680-80212-9	VG1-65-060612	Water	06/06/12 17:00	06/09/12 09:39
680-80212-10	Dupe01-060612	Water	06/06/12 00:00	06/09/12 09:39
680-80212-15	TB-060512	Water	06/05/12 00:00	06/09/12 09:39

Method Summary

Client: AECOM, Inc.

Project/Site: Granville - VOC -I JUNE 2012

TestAmerica Job ID: 680-80212-2

Method	Method Description	Protocol	Laboratory
524.2	Volatile Organic Compounds (GC/MS)	EPA-DW	TAL SAV

Protocol References:

EPA-DW = "Methods For The Determination Of Organic Compounds In Drinking Water", EPA/600/4-88/039, December 1988 And Its Supplements.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Definitions/Glossary

Client: AECOM, Inc.

Project/Site: Granville - VOC -I JUNE 2012

TestAmerica Job ID: 680-80212-2

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F	MS or MSD exceeds the control limits
F	RPD of the MS and MSD exceeds the control limits

Glossary

Abbreviation

These commonly used abbreviations may or may not be present in this report.

⊗	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Detection Summary

Client: AECOM, Inc.

Project/Site: Granville - VOC -I JUNE 2012

TestAmerica Job ID: 680-80212-2

Client Sample ID: DG1-060512

Lab Sample ID: 680-80212-1

No Detections

Client Sample ID: DG2-060512

Lab Sample ID: 680-80212-2

No Detections

Client Sample ID: DG3-060512

Lab Sample ID: 680-80212-3

No Detections

Client Sample ID: DG4-060512

Lab Sample ID: 680-80212-4

No Detections

Client Sample ID: VG1-25-060612

Lab Sample ID: 680-80212-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	4.5		0.50		ug/L	1		524.2	Total/NA
1,1-Dichloroethane	0.58		0.50		ug/L	1		524.2	Total/NA
Tetrachloroethene	1.1		0.50		ug/L	1		524.2	Total/NA
1,1,1-Trichloroethane	15		0.50		ug/L	1		524.2	Total/NA
Trichloroethene	14		0.50		ug/L	1		524.2	Total/NA

Client Sample ID: VG1-35-060612

Lab Sample ID: 680-80212-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	72		1.0		ug/L	2		524.2	Total/NA
1,1-Dichloroethane	9.2		0.50		ug/L	1		524.2	Total/NA
trans-1,2-Dichloroethene	3.6		0.50		ug/L	1		524.2	Total/NA
Trichloroethene	0.60		0.50		ug/L	1		524.2	Total/NA

Client Sample ID: VG1-45-060612

Lab Sample ID: 680-80212-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.81		0.50		ug/L	1		524.2	Total/NA

Client Sample ID: VG1-55-060612

Lab Sample ID: 680-80212-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.2		0.50		ug/L	1		524.2	Total/NA
Trichloroethene	0.56		0.50		ug/L	1		524.2	Total/NA

Client Sample ID: VG1-65-060612

Lab Sample ID: 680-80212-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.5		0.50		ug/L	1		524.2	Total/NA
Trichloroethene	0.60		0.50		ug/L	1		524.2	Total/NA

Client Sample ID: Dupe01-060612

Lab Sample ID: 680-80212-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.1		0.50		ug/L	1		524.2	Total/NA
Trichloroethene	0.61		0.50		ug/L	1		524.2	Total/NA

Detection Summary

Client: AECOM, Inc.

Project/Site: Granville - VOC -I JUNE 2012

TestAmerica Job ID: 680-80212-2

Client Sample ID: TB-060512

Lab Sample ID: 680-80212-15

No Detections

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Client Sample Results

Client: AECOM, Inc.

Project/Site: Granville - VOC -I JUNE 2012

TestAmerica Job ID: 680-80212-2

Client Sample ID: DG1-060512

Lab Sample ID: 680-80212-1

Matrix: Water

Date Collected: 06/05/12 17:35

Date Received: 06/09/12 09:39

Method: 524.2 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.50		0.50		ug/L			06/18/12 19:37	1
Bromobenzene	<0.50		0.50		ug/L			06/18/12 19:37	1
Bromoform	<0.50		0.50		ug/L			06/18/12 19:37	1
Bromomethane	<1.0		1.0		ug/L			06/18/12 19:37	1
Carbon tetrachloride	<0.50		0.50		ug/L			06/18/12 19:37	1
Chlorobenzene	<0.50		0.50		ug/L			06/18/12 19:37	1
Chlorodibromomethane	<0.50		0.50		ug/L			06/18/12 19:37	1
Chloroethane	<1.0		1.0		ug/L			06/18/12 19:37	1
Chloroform	<0.50		0.50		ug/L			06/18/12 19:37	1
Chloromethane	<0.50		0.50		ug/L			06/18/12 19:37	1
2-Chlorotoluene	<0.50		0.50		ug/L			06/18/12 19:37	1
4-Chlorotoluene	<0.50		0.50		ug/L			06/18/12 19:37	1
cis-1,2-Dichloroethene	<0.50		0.50		ug/L			06/18/12 19:37	1
cis-1,3-Dichloropropene	<0.50		0.50		ug/L			06/18/12 19:37	1
Dibromomethane	<0.50		0.50		ug/L			06/18/12 19:37	1
1,2-Dichlorobenzene	<0.50		0.50		ug/L			06/18/12 19:37	1
1,3-Dichlorobenzene	<0.50		0.50		ug/L			06/18/12 19:37	1
1,4-Dichlorobenzene	<0.50		0.50		ug/L			06/18/12 19:37	1
Dichlorobromomethane	<1.0		1.0		ug/L			06/18/12 19:37	1
1,1-Dichloroethane	<0.50		0.50		ug/L			06/18/12 19:37	1
1,2-Dichloroethane	<0.50		0.50		ug/L			06/18/12 19:37	1
1,1-Dichloroethene	<0.50		0.50		ug/L			06/18/12 19:37	1
1,2-Dichloropropane	<0.50		0.50		ug/L			06/18/12 19:37	1
1,3-Dichloropropane	<0.50		0.50		ug/L			06/18/12 19:37	1
2,2-Dichloropropane	<0.50		0.50		ug/L			06/18/12 19:37	1
1,1-Dichloropropene	<0.50		0.50		ug/L			06/18/12 19:37	1
Ethylbenzene	<0.50		0.50		ug/L			06/18/12 19:37	1
Methylene Chloride	<0.50		0.50		ug/L			06/18/12 19:37	1
Methyl tert-butyl ether	<0.50		0.50		ug/L			06/18/12 19:37	1
m-Xylene & p-Xylene	<0.50		0.50		ug/L			06/18/12 19:37	1
o-Xylene	<0.50		0.50		ug/L			06/18/12 19:37	1
Styrene	<0.50		0.50		ug/L			06/18/12 19:37	1
1,1,1,2-Tetrachloroethane	<0.50		0.50		ug/L			06/18/12 19:37	1
1,1,2,2-Tetrachloroethane	<0.50		0.50		ug/L			06/18/12 19:37	1
Tetrachloroethene	<0.50		0.50		ug/L			06/18/12 19:37	1
Toluene	<0.50		0.50		ug/L			06/18/12 19:37	1
trans-1,2-Dichloroethene	<0.50		0.50		ug/L			06/18/12 19:37	1
trans-1,3-Dichloropropene	<0.50		0.50		ug/L			06/18/12 19:37	1
1,2,4-Trichlorobenzene	<0.50		0.50		ug/L			06/18/12 19:37	1
1,1,1-Trichloroethane	<0.50		0.50		ug/L			06/18/12 19:37	1
1,1,2-Trichloroethane	<0.50		0.50		ug/L			06/18/12 19:37	1
Trichloroethene	<0.50		0.50		ug/L			06/18/12 19:37	1
1,2,3-Trichloropropane	<0.50		0.50		ug/L			06/18/12 19:37	1
Vinyl chloride	<0.50		0.50		ug/L			06/18/12 19:37	1
Xylenes, Total	<0.50		0.50		ug/L			06/18/12 19:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	94		70 - 130			
1,2-Dichlorobenzene-d4	95		70 - 130			

Client Sample Results

Client: AECOM, Inc.

Project/Site: Granville - VOC - I JUNE 2012

TestAmerica Job ID: 680-80212-2

Client Sample ID: DG2-060512

Lab Sample ID: 680-80212-2

Matrix: Water

Date Collected: 06/05/12 12:40

Date Received: 06/09/12 09:39

Method: 524.2 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.50		0.50		ug/L			06/18/12 20:04	1
Bromobenzene	<0.50		0.50		ug/L			06/18/12 20:04	1
Bromoform	<0.50		0.50		ug/L			06/18/12 20:04	1
Bromomethane	<1.0		1.0		ug/L			06/18/12 20:04	1
Carbon tetrachloride	<0.50		0.50		ug/L			06/18/12 20:04	1
Chlorobenzene	<0.50		0.50		ug/L			06/18/12 20:04	1
Chlorodibromomethane	<0.50		0.50		ug/L			06/18/12 20:04	1
Chloroethane	<1.0		1.0		ug/L			06/18/12 20:04	1
Chloroform	<0.50		0.50		ug/L			06/18/12 20:04	1
Chloromethane	<0.50		0.50		ug/L			06/18/12 20:04	1
2-Chlorotoluene	<0.50		0.50		ug/L			06/18/12 20:04	1
4-Chlorotoluene	<0.50		0.50		ug/L			06/18/12 20:04	1
cis-1,2-Dichloroethene	<0.50		0.50		ug/L			06/18/12 20:04	1
cis-1,3-Dichloropropene	<0.50		0.50		ug/L			06/18/12 20:04	1
Dibromomethane	<0.50		0.50		ug/L			06/18/12 20:04	1
1,2-Dichlorobenzene	<0.50		0.50		ug/L			06/18/12 20:04	1
1,3-Dichlorobenzene	<0.50		0.50		ug/L			06/18/12 20:04	1
1,4-Dichlorobenzene	<0.50		0.50		ug/L			06/18/12 20:04	1
Dichlorobromomethane	<1.0		1.0		ug/L			06/18/12 20:04	1
1,1-Dichloroethane	<0.50		0.50		ug/L			06/18/12 20:04	1
1,2-Dichloroethane	<0.50		0.50		ug/L			06/18/12 20:04	1
1,1-Dichloroethene	<0.50		0.50		ug/L			06/18/12 20:04	1
1,2-Dichloropropane	<0.50		0.50		ug/L			06/18/12 20:04	1
1,3-Dichloropropane	<0.50		0.50		ug/L			06/18/12 20:04	1
2,2-Dichloropropane	<0.50		0.50		ug/L			06/18/12 20:04	1
1,1-Dichloropropene	<0.50		0.50		ug/L			06/18/12 20:04	1
Ethylbenzene	<0.50		0.50		ug/L			06/18/12 20:04	1
Methylene Chloride	<0.50		0.50		ug/L			06/18/12 20:04	1
Methyl tert-butyl ether	<0.50		0.50		ug/L			06/18/12 20:04	1
m-Xylene & p-Xylene	<0.50		0.50		ug/L			06/18/12 20:04	1
o-Xylene	<0.50		0.50		ug/L			06/18/12 20:04	1
Styrene	<0.50		0.50		ug/L			06/18/12 20:04	1
1,1,1,2-Tetrachloroethane	<0.50		0.50		ug/L			06/18/12 20:04	1
1,1,2,2-Tetrachloroethane	<0.50		0.50		ug/L			06/18/12 20:04	1
Tetrachloroethene	<0.50		0.50		ug/L			06/18/12 20:04	1
Toluene	<0.50		0.50		ug/L			06/18/12 20:04	1
trans-1,2-Dichloroethene	<0.50		0.50		ug/L			06/18/12 20:04	1
trans-1,3-Dichloropropene	<0.50		0.50		ug/L			06/18/12 20:04	1
1,2,4-Trichlorobenzene	<0.50		0.50		ug/L			06/18/12 20:04	1
1,1,1-Trichloroethane	<0.50		0.50		ug/L			06/18/12 20:04	1
1,1,2-Trichloroethane	<0.50		0.50		ug/L			06/18/12 20:04	1
Trichloroethene	<0.50		0.50		ug/L			06/18/12 20:04	1
1,2,3-Trichloropropane	<0.50		0.50		ug/L			06/18/12 20:04	1
Vinyl chloride	<0.50		0.50		ug/L			06/18/12 20:04	1
Xylenes, Total	<0.50		0.50		ug/L			06/18/12 20:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	90		70 - 130			
1,2-Dichlorobenzene-d4	93		70 - 130			

Client Sample Results

Client: AECOM, Inc.

Project/Site: Granville - VOC -I JUNE 2012

TestAmerica Job ID: 680-80212-2

Client Sample ID: DG3-060512

Lab Sample ID: 680-80212-3

Matrix: Water

Date Collected: 06/05/12 14:20

Date Received: 06/09/12 09:39

Method: 524.2 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.50		0.50		ug/L			06/18/12 20:31	1
Bromobenzene	<0.50		0.50		ug/L			06/18/12 20:31	1
Bromoform	<0.50		0.50		ug/L			06/18/12 20:31	1
Bromomethane	<1.0		1.0		ug/L			06/18/12 20:31	1
Carbon tetrachloride	<0.50		0.50		ug/L			06/18/12 20:31	1
Chlorobenzene	<0.50		0.50		ug/L			06/18/12 20:31	1
Chlorodibromomethane	<0.50		0.50		ug/L			06/18/12 20:31	1
Chloroethane	<1.0		1.0		ug/L			06/18/12 20:31	1
Chloroform	<0.50		0.50		ug/L			06/18/12 20:31	1
Chloromethane	<0.50		0.50		ug/L			06/18/12 20:31	1
2-Chlorotoluene	<0.50		0.50		ug/L			06/18/12 20:31	1
4-Chlorotoluene	<0.50		0.50		ug/L			06/18/12 20:31	1
cis-1,2-Dichloroethene	<0.50		0.50		ug/L			06/18/12 20:31	1
cis-1,3-Dichloropropene	<0.50		0.50		ug/L			06/18/12 20:31	1
Dibromomethane	<0.50		0.50		ug/L			06/18/12 20:31	1
1,2-Dichlorobenzene	<0.50		0.50		ug/L			06/18/12 20:31	1
1,3-Dichlorobenzene	<0.50		0.50		ug/L			06/18/12 20:31	1
1,4-Dichlorobenzene	<0.50		0.50		ug/L			06/18/12 20:31	1
Dichlorobromomethane	<1.0		1.0		ug/L			06/18/12 20:31	1
1,1-Dichloroethane	<0.50		0.50		ug/L			06/18/12 20:31	1
1,2-Dichloroethane	<0.50		0.50		ug/L			06/18/12 20:31	1
1,1-Dichloroethene	<0.50		0.50		ug/L			06/18/12 20:31	1
1,2-Dichloropropane	<0.50		0.50		ug/L			06/18/12 20:31	1
1,3-Dichloropropane	<0.50		0.50		ug/L			06/18/12 20:31	1
2,2-Dichloropropane	<0.50		0.50		ug/L			06/18/12 20:31	1
1,1-Dichloropropene	<0.50		0.50		ug/L			06/18/12 20:31	1
Ethylbenzene	<0.50		0.50		ug/L			06/18/12 20:31	1
Methylene Chloride	<0.50		0.50		ug/L			06/18/12 20:31	1
Methyl tert-butyl ether	<0.50		0.50		ug/L			06/18/12 20:31	1
m-Xylene & p-Xylene	<0.50		0.50		ug/L			06/18/12 20:31	1
o-Xylene	<0.50		0.50		ug/L			06/18/12 20:31	1
Styrene	<0.50		0.50		ug/L			06/18/12 20:31	1
1,1,1,2-Tetrachloroethane	<0.50		0.50		ug/L			06/18/12 20:31	1
1,1,2,2-Tetrachloroethane	<0.50		0.50		ug/L			06/18/12 20:31	1
Tetrachloroethene	<0.50		0.50		ug/L			06/18/12 20:31	1
Toluene	<0.50		0.50		ug/L			06/18/12 20:31	1
trans-1,2-Dichloroethene	<0.50		0.50		ug/L			06/18/12 20:31	1
trans-1,3-Dichloropropene	<0.50		0.50		ug/L			06/18/12 20:31	1
1,2,4-Trichlorobenzene	<0.50		0.50		ug/L			06/18/12 20:31	1
1,1,1-Trichloroethane	<0.50		0.50		ug/L			06/18/12 20:31	1
1,1,2-Trichloroethane	<0.50		0.50		ug/L			06/18/12 20:31	1
Trichloroethene	<0.50		0.50		ug/L			06/18/12 20:31	1
1,2,3-Trichloropropane	<0.50		0.50		ug/L			06/18/12 20:31	1
Vinyl chloride	<0.50		0.50		ug/L			06/18/12 20:31	1
Xylenes, Total	<0.50		0.50		ug/L			06/18/12 20:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	94		70 - 130			
1,2-Dichlorobenzene-d4	96		70 - 130			

Client Sample Results

Client: AECOM, Inc.

Project/Site: Granville - VOC -I JUNE 2012

TestAmerica Job ID: 680-80212-2

Client Sample ID: DG4-060512

Lab Sample ID: 680-80212-4

Matrix: Water

Date Collected: 06/05/12 16:20

Date Received: 06/09/12 09:39

Method: 524.2 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.50		0.50		ug/L			06/18/12 20:58	1
Bromobenzene	<0.50		0.50		ug/L			06/18/12 20:58	1
Bromoform	<0.50		0.50		ug/L			06/18/12 20:58	1
Bromomethane	<1.0		1.0		ug/L			06/18/12 20:58	1
Carbon tetrachloride	<0.50		0.50		ug/L			06/18/12 20:58	1
Chlorobenzene	<0.50		0.50		ug/L			06/18/12 20:58	1
Chlorodibromomethane	<0.50		0.50		ug/L			06/18/12 20:58	1
Chloroethane	<1.0		1.0		ug/L			06/18/12 20:58	1
Chloroform	<0.50		0.50		ug/L			06/18/12 20:58	1
Chloromethane	<0.50		0.50		ug/L			06/18/12 20:58	1
2-Chlorotoluene	<0.50		0.50		ug/L			06/18/12 20:58	1
4-Chlorotoluene	<0.50		0.50		ug/L			06/18/12 20:58	1
cis-1,2-Dichloroethene	<0.50		0.50		ug/L			06/18/12 20:58	1
cis-1,3-Dichloropropene	<0.50		0.50		ug/L			06/18/12 20:58	1
Dibromomethane	<0.50		0.50		ug/L			06/18/12 20:58	1
1,2-Dichlorobenzene	<0.50		0.50		ug/L			06/18/12 20:58	1
1,3-Dichlorobenzene	<0.50		0.50		ug/L			06/18/12 20:58	1
1,4-Dichlorobenzene	<0.50		0.50		ug/L			06/18/12 20:58	1
Dichlorobromomethane	<1.0		1.0		ug/L			06/18/12 20:58	1
1,1-Dichloroethane	<0.50		0.50		ug/L			06/18/12 20:58	1
1,2-Dichloroethane	<0.50		0.50		ug/L			06/18/12 20:58	1
1,1-Dichloroethene	<0.50		0.50		ug/L			06/18/12 20:58	1
1,2-Dichloropropane	<0.50		0.50		ug/L			06/18/12 20:58	1
1,3-Dichloropropane	<0.50		0.50		ug/L			06/18/12 20:58	1
2,2-Dichloropropane	<0.50		0.50		ug/L			06/18/12 20:58	1
1,1-Dichloropropene	<0.50		0.50		ug/L			06/18/12 20:58	1
Ethylbenzene	<0.50		0.50		ug/L			06/18/12 20:58	1
Methylene Chloride	<0.50		0.50		ug/L			06/18/12 20:58	1
Methyl tert-butyl ether	<0.50		0.50		ug/L			06/18/12 20:58	1
m-Xylene & p-Xylene	<0.50		0.50		ug/L			06/18/12 20:58	1
o-Xylene	<0.50		0.50		ug/L			06/18/12 20:58	1
Styrene	<0.50		0.50		ug/L			06/18/12 20:58	1
1,1,1,2-Tetrachloroethane	<0.50		0.50		ug/L			06/18/12 20:58	1
1,1,2,2-Tetrachloroethane	<0.50		0.50		ug/L			06/18/12 20:58	1
Tetrachloroethene	<0.50		0.50		ug/L			06/18/12 20:58	1
Toluene	<0.50		0.50		ug/L			06/18/12 20:58	1
trans-1,2-Dichloroethene	<0.50		0.50		ug/L			06/18/12 20:58	1
trans-1,3-Dichloropropene	<0.50		0.50		ug/L			06/18/12 20:58	1
1,2,4-Trichlorobenzene	<0.50		0.50		ug/L			06/18/12 20:58	1
1,1,1-Trichloroethane	<0.50		0.50		ug/L			06/18/12 20:58	1
1,1,2-Trichloroethane	<0.50		0.50		ug/L			06/18/12 20:58	1
Trichloroethene	<0.50		0.50		ug/L			06/18/12 20:58	1
1,2,3-Trichloropropane	<0.50		0.50		ug/L			06/18/12 20:58	1
Vinyl chloride	<0.50		0.50		ug/L			06/18/12 20:58	1
Xylenes, Total	<0.50		0.50		ug/L			06/18/12 20:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	93		70 - 130		06/18/12 20:58	1
1,2-Dichlorobenzene-d4	96		70 - 130		06/18/12 20:58	1

Client Sample Results

Client: AECOM, Inc.

Project/Site: Granville - VOC -I JUNE 2012

TestAmerica Job ID: 680-80212-2

Client Sample ID: VG1-25-060612

Lab Sample ID: 680-80212-5

Matrix: Water

Date Collected: 06/06/12 18:55

Date Received: 06/09/12 09:39

Method: 524.2 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.50		0.50		ug/L			06/18/12 21:25	1
Bromobenzene	<0.50		0.50		ug/L			06/18/12 21:25	1
Bromoform	<0.50		0.50		ug/L			06/18/12 21:25	1
Bromomethane	<1.0		1.0		ug/L			06/18/12 21:25	1
Carbon tetrachloride	<0.50		0.50		ug/L			06/18/12 21:25	1
Chlorobenzene	<0.50		0.50		ug/L			06/18/12 21:25	1
Chlorodibromomethane	<0.50		0.50		ug/L			06/18/12 21:25	1
Chloroethane	<1.0		1.0		ug/L			06/18/12 21:25	1
Chloroform	<0.50		0.50		ug/L			06/18/12 21:25	1
Chloromethane	<0.50		0.50		ug/L			06/18/12 21:25	1
2-Chlorotoluene	<0.50		0.50		ug/L			06/18/12 21:25	1
4-Chlorotoluene	<0.50		0.50		ug/L			06/18/12 21:25	1
cis-1,2-Dichloroethene	4.5		0.50		ug/L			06/18/12 21:25	1
cis-1,3-Dichloropropene	<0.50		0.50		ug/L			06/18/12 21:25	1
Dibromomethane	<0.50		0.50		ug/L			06/18/12 21:25	1
1,2-Dichlorobenzene	<0.50		0.50		ug/L			06/18/12 21:25	1
1,3-Dichlorobenzene	<0.50		0.50		ug/L			06/18/12 21:25	1
1,4-Dichlorobenzene	<0.50		0.50		ug/L			06/18/12 21:25	1
Dichlorobromomethane	<1.0		1.0		ug/L			06/18/12 21:25	1
1,1-Dichloroethane	0.58		0.50		ug/L			06/18/12 21:25	1
1,2-Dichloroethane	<0.50		0.50		ug/L			06/18/12 21:25	1
1,1-Dichloroethene	<0.50		0.50		ug/L			06/18/12 21:25	1
1,2-Dichloropropane	<0.50		0.50		ug/L			06/18/12 21:25	1
1,3-Dichloropropane	<0.50		0.50		ug/L			06/18/12 21:25	1
2,2-Dichloropropane	<0.50		0.50		ug/L			06/18/12 21:25	1
1,1-Dichloropropene	<0.50		0.50		ug/L			06/18/12 21:25	1
Ethylbenzene	<0.50		0.50		ug/L			06/18/12 21:25	1
Methylene Chloride	<0.50		0.50		ug/L			06/18/12 21:25	1
Methyl tert-butyl ether	<0.50		0.50		ug/L			06/18/12 21:25	1
m-Xylene & p-Xylene	<0.50		0.50		ug/L			06/18/12 21:25	1
o-Xylene	<0.50		0.50		ug/L			06/18/12 21:25	1
Styrene	<0.50		0.50		ug/L			06/18/12 21:25	1
1,1,1,2-Tetrachloroethane	<0.50		0.50		ug/L			06/18/12 21:25	1
1,1,2,2-Tetrachloroethane	<0.50		0.50		ug/L			06/18/12 21:25	1
Tetrachloroethene	1.1		0.50		ug/L			06/18/12 21:25	1
Toluene	<0.50		0.50		ug/L			06/18/12 21:25	1
trans-1,2-Dichloroethene	<0.50		0.50		ug/L			06/18/12 21:25	1
trans-1,3-Dichloropropene	<0.50		0.50		ug/L			06/18/12 21:25	1
1,2,4-Trichlorobenzene	<0.50		0.50		ug/L			06/18/12 21:25	1
1,1,1-Trichloroethane	15		0.50		ug/L			06/18/12 21:25	1
1,1,2-Trichloroethane	<0.50		0.50		ug/L			06/18/12 21:25	1
Trichloroethene	14		0.50		ug/L			06/18/12 21:25	1
1,2,3-Trichloropropane	<0.50		0.50		ug/L			06/18/12 21:25	1
Vinyl chloride	<0.50		0.50		ug/L			06/18/12 21:25	1
Xylenes, Total	<0.50		0.50		ug/L			06/18/12 21:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	91		70 - 130					06/18/12 21:25	1
1,2-Dichlorobenzene-d4	92		70 - 130					06/18/12 21:25	1

Client Sample Results

Client: AECOM, Inc.

Project/Site: Granville - VOC -I JUNE 2012

TestAmerica Job ID: 680-80212-2

Client Sample ID: VG1-35-060612

Lab Sample ID: 680-80212-6

Matrix: Water

Date Collected: 06/06/12 18:30

Date Received: 06/09/12 09:39

Method: 524.2 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.50		0.50		ug/L			06/18/12 21:52	1
Bromobenzene	<0.50		0.50		ug/L			06/18/12 21:52	1
Bromoform	<0.50		0.50		ug/L			06/18/12 21:52	1
Bromomethane	<1.0		1.0		ug/L			06/18/12 21:52	1
Carbon tetrachloride	<0.50		0.50		ug/L			06/18/12 21:52	1
Chlorobenzene	<0.50		0.50		ug/L			06/18/12 21:52	1
Chlorodibromomethane	<0.50		0.50		ug/L			06/18/12 21:52	1
Chloroethane	<1.0		1.0		ug/L			06/18/12 21:52	1
Chloroform	<0.50		0.50		ug/L			06/18/12 21:52	1
Chloromethane	<0.50		0.50		ug/L			06/18/12 21:52	1
2-Chlorotoluene	<0.50		0.50		ug/L			06/18/12 21:52	1
4-Chlorotoluene	<0.50		0.50		ug/L			06/18/12 21:52	1
cis-1,2-Dichloroethene	72		1.0		ug/L			06/20/12 17:32	2
cis-1,3-Dichloropropene	<0.50		0.50		ug/L			06/18/12 21:52	1
Dibromomethane	<0.50		0.50		ug/L			06/18/12 21:52	1
1,2-Dichlorobenzene	<0.50		0.50		ug/L			06/18/12 21:52	1
1,3-Dichlorobenzene	<0.50		0.50		ug/L			06/18/12 21:52	1
1,4-Dichlorobenzene	<0.50		0.50		ug/L			06/18/12 21:52	1
Dichlorobromomethane	<1.0		1.0		ug/L			06/18/12 21:52	1
1,1-Dichloroethane	9.2		0.50		ug/L			06/18/12 21:52	1
1,2-Dichloroethane	<0.50		0.50		ug/L			06/18/12 21:52	1
1,1-Dichloroethene	<0.50		0.50		ug/L			06/18/12 21:52	1
1,2-Dichloropropane	<0.50		0.50		ug/L			06/18/12 21:52	1
1,3-Dichloropropane	<0.50		0.50		ug/L			06/18/12 21:52	1
2,2-Dichloropropane	<0.50		0.50		ug/L			06/18/12 21:52	1
1,1-Dichloropropene	<0.50		0.50		ug/L			06/18/12 21:52	1
Ethylbenzene	<0.50		0.50		ug/L			06/18/12 21:52	1
Methylene Chloride	<0.50		0.50		ug/L			06/18/12 21:52	1
Methyl tert-butyl ether	<0.50		0.50		ug/L			06/18/12 21:52	1
m-Xylene & p-Xylene	<0.50		0.50		ug/L			06/18/12 21:52	1
o-Xylene	<0.50		0.50		ug/L			06/18/12 21:52	1
Styrene	<0.50		0.50		ug/L			06/18/12 21:52	1
1,1,1,2-Tetrachloroethane	<0.50		0.50		ug/L			06/18/12 21:52	1
1,1,2,2-Tetrachloroethane	<0.50		0.50		ug/L			06/18/12 21:52	1
Tetrachloroethene	<0.50		0.50		ug/L			06/18/12 21:52	1
Toluene	<0.50		0.50		ug/L			06/18/12 21:52	1
trans-1,2-Dichloroethene	3.6		0.50		ug/L			06/18/12 21:52	1
trans-1,3-Dichloropropene	<0.50		0.50		ug/L			06/18/12 21:52	1
1,2,4-Trichlorobenzene	<0.50		0.50		ug/L			06/18/12 21:52	1
1,1,1-Trichloroethane	<0.50		0.50		ug/L			06/18/12 21:52	1
1,1,2-Trichloroethane	<0.50		0.50		ug/L			06/18/12 21:52	1
Trichloroethene	0.60		0.50		ug/L			06/18/12 21:52	1
1,2,3-Trichloropropane	<0.50		0.50		ug/L			06/18/12 21:52	1
Vinyl chloride	<0.50		0.50		ug/L			06/18/12 21:52	1
Xylenes, Total	<0.50		0.50		ug/L			06/18/12 21:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	84		70 - 130			1
4-Bromofluorobenzene	92		70 - 130			2
1,2-Dichlorobenzene-d4	84		70 - 130			1
1,2-Dichlorobenzene-d4	91		70 - 130			2

Client Sample Results

Client: AECOM, Inc.

Project/Site: Granville - VOC -I JUNE 2012

TestAmerica Job ID: 680-80212-2

Client Sample ID: VG1-45-060612

Lab Sample ID: 680-80212-7

Matrix: Water

Date Collected: 06/06/12 18:00

Date Received: 06/09/12 09:39

Method: 524.2 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.50		0.50		ug/L			06/20/12 17:12	1
Bromobenzene	<0.50		0.50		ug/L			06/20/12 17:12	1
Bromoform	<0.50		0.50		ug/L			06/20/12 17:12	1
Bromomethane	<1.0		1.0		ug/L			06/20/12 17:12	1
Carbon tetrachloride	<0.50		0.50		ug/L			06/20/12 17:12	1
Chlorobenzene	<0.50		0.50		ug/L			06/20/12 17:12	1
Chlorodibromomethane	<0.50		0.50		ug/L			06/20/12 17:12	1
Chloroethane	<1.0		1.0		ug/L			06/20/12 17:12	1
Chloroform	<0.50		0.50		ug/L			06/20/12 17:12	1
Chloromethane	<0.50		0.50		ug/L			06/20/12 17:12	1
2-Chlorotoluene	<0.50		0.50		ug/L			06/20/12 17:12	1
4-Chlorotoluene	<0.50		0.50		ug/L			06/20/12 17:12	1
cis-1,2-Dichloroethene	0.81		0.50		ug/L			06/20/12 17:12	1
cis-1,3-Dichloropropene	<0.50		0.50		ug/L			06/20/12 17:12	1
Dibromomethane	<0.50		0.50		ug/L			06/20/12 17:12	1
1,2-Dichlorobenzene	<0.50		0.50		ug/L			06/20/12 17:12	1
1,3-Dichlorobenzene	<0.50		0.50		ug/L			06/20/12 17:12	1
1,4-Dichlorobenzene	<0.50		0.50		ug/L			06/20/12 17:12	1
Dichlorobromomethane	<1.0		1.0		ug/L			06/20/12 17:12	1
1,1-Dichloroethane	<0.50		0.50		ug/L			06/20/12 17:12	1
1,2-Dichloroethane	<0.50		0.50		ug/L			06/20/12 17:12	1
1,1-Dichloroethene	<0.50		0.50		ug/L			06/20/12 17:12	1
1,2-Dichloropropane	<0.50		0.50		ug/L			06/20/12 17:12	1
1,3-Dichloropropane	<0.50		0.50		ug/L			06/20/12 17:12	1
2,2-Dichloropropane	<0.50		0.50		ug/L			06/20/12 17:12	1
1,1-Dichloropropene	<0.50		0.50		ug/L			06/20/12 17:12	1
Ethylbenzene	<0.50		0.50		ug/L			06/20/12 17:12	1
Methylene Chloride	<0.50		0.50		ug/L			06/20/12 17:12	1
Methyl tert-butyl ether	<0.50		0.50		ug/L			06/20/12 17:12	1
m-Xylene & p-Xylene	<0.50		0.50		ug/L			06/20/12 17:12	1
o-Xylene	<0.50		0.50		ug/L			06/20/12 17:12	1
Styrene	<0.50		0.50		ug/L			06/20/12 17:12	1
1,1,1,2-Tetrachloroethane	<0.50		0.50		ug/L			06/20/12 17:12	1
1,1,2,2-Tetrachloroethane	<0.50		0.50		ug/L			06/20/12 17:12	1
Tetrachloroethene	<0.50		0.50		ug/L			06/20/12 17:12	1
Toluene	<0.50		0.50		ug/L			06/20/12 17:12	1
trans-1,2-Dichloroethene	<0.50		0.50		ug/L			06/20/12 17:12	1
trans-1,3-Dichloropropene	<0.50		0.50		ug/L			06/20/12 17:12	1
1,2,4-Trichlorobenzene	<0.50		0.50		ug/L			06/20/12 17:12	1
1,1,1-Trichloroethane	<0.50		0.50		ug/L			06/20/12 17:12	1
1,1,2-Trichloroethane	<0.50		0.50		ug/L			06/20/12 17:12	1
Trichloroethene	<0.50		0.50		ug/L			06/20/12 17:12	1
1,2,3-Trichloropropane	<0.50		0.50		ug/L			06/20/12 17:12	1
Vinyl chloride	<0.50		0.50		ug/L			06/20/12 17:12	1
Xylenes, Total	<0.50		0.50		ug/L			06/20/12 17:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	87		70 - 130			
1,2-Dichlorobenzene-d4	77		70 - 130			

Client Sample Results

Client: AECOM, Inc.

Project/Site: Granville - VOC -I JUNE 2012

TestAmerica Job ID: 680-80212-2

Client Sample ID: VG1-55-060612

Lab Sample ID: 680-80212-8

Matrix: Water

Date Collected: 06/06/12 17:30

Date Received: 06/09/12 09:39

Method: 524.2 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.50		0.50		ug/L			06/20/12 17:57	1
Bromobenzene	<0.50		0.50		ug/L			06/20/12 17:57	1
Bromoform	<0.50		0.50		ug/L			06/20/12 17:57	1
Bromomethane	<1.0		1.0		ug/L			06/20/12 17:57	1
Carbon tetrachloride	<0.50		0.50		ug/L			06/20/12 17:57	1
Chlorobenzene	<0.50		0.50		ug/L			06/20/12 17:57	1
Chlorodibromomethane	<0.50		0.50		ug/L			06/20/12 17:57	1
Chloroethane	<1.0		1.0		ug/L			06/20/12 17:57	1
Chloroform	<0.50		0.50		ug/L			06/20/12 17:57	1
Chloromethane	<0.50		0.50		ug/L			06/20/12 17:57	1
2-Chlorotoluene	<0.50		0.50		ug/L			06/20/12 17:57	1
4-Chlorotoluene	<0.50		0.50		ug/L			06/20/12 17:57	1
cis-1,2-Dichloroethene	1.2		0.50		ug/L			06/20/12 17:57	1
cis-1,3-Dichloropropene	<0.50		0.50		ug/L			06/20/12 17:57	1
Dibromomethane	<0.50		0.50		ug/L			06/20/12 17:57	1
1,2-Dichlorobenzene	<0.50		0.50		ug/L			06/20/12 17:57	1
1,3-Dichlorobenzene	<0.50		0.50		ug/L			06/20/12 17:57	1
1,4-Dichlorobenzene	<0.50		0.50		ug/L			06/20/12 17:57	1
Dichlorobromomethane	<1.0		1.0		ug/L			06/20/12 17:57	1
1,1-Dichloroethane	<0.50		0.50		ug/L			06/20/12 17:57	1
1,2-Dichloroethane	<0.50		0.50		ug/L			06/20/12 17:57	1
1,1-Dichloroethene	<0.50		0.50		ug/L			06/20/12 17:57	1
1,2-Dichloropropane	<0.50		0.50		ug/L			06/20/12 17:57	1
1,3-Dichloropropane	<0.50		0.50		ug/L			06/20/12 17:57	1
2,2-Dichloropropane	<0.50		0.50		ug/L			06/20/12 17:57	1
1,1-Dichloropropene	<0.50		0.50		ug/L			06/20/12 17:57	1
Ethylbenzene	<0.50		0.50		ug/L			06/20/12 17:57	1
Methylene Chloride	<0.50		0.50		ug/L			06/20/12 17:57	1
Methyl tert-butyl ether	<0.50		0.50		ug/L			06/20/12 17:57	1
m-Xylene & p-Xylene	<0.50		0.50		ug/L			06/20/12 17:57	1
o-Xylene	<0.50		0.50		ug/L			06/20/12 17:57	1
Styrene	<0.50		0.50		ug/L			06/20/12 17:57	1
1,1,1,2-Tetrachloroethane	<0.50		0.50		ug/L			06/20/12 17:57	1
1,1,2,2-Tetrachloroethane	<0.50		0.50		ug/L			06/20/12 17:57	1
Tetrachloroethene	<0.50		0.50		ug/L			06/20/12 17:57	1
Toluene	<0.50		0.50		ug/L			06/20/12 17:57	1
trans-1,2-Dichloroethene	<0.50		0.50		ug/L			06/20/12 17:57	1
trans-1,3-Dichloropropene	<0.50		0.50		ug/L			06/20/12 17:57	1
1,2,4-Trichlorobenzene	<0.50		0.50		ug/L			06/20/12 17:57	1
1,1,1-Trichloroethane	<0.50		0.50		ug/L			06/20/12 17:57	1
1,1,2-Trichloroethane	<0.50		0.50		ug/L			06/20/12 17:57	1
Trichloroethene	0.56		0.50		ug/L			06/20/12 17:57	1
1,2,3-Trichloropropane	<0.50		0.50		ug/L			06/20/12 17:57	1
Vinyl chloride	<0.50		0.50		ug/L			06/20/12 17:57	1
Xylenes, Total	<0.50		0.50		ug/L			06/20/12 17:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	89		70 - 130			
1,2-Dichlorobenzene-d4	79		70 - 130			

Client Sample Results

Client: AECOM, Inc.

Project/Site: Granville - VOC -I JUNE 2012

TestAmerica Job ID: 680-80212-2

Client Sample ID: VG1-65-060612

Lab Sample ID: 680-80212-9

Matrix: Water

Date Collected: 06/06/12 17:00

Date Received: 06/09/12 09:39

Method: 524.2 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.50		0.50		ug/L			06/20/12 18:19	1
Bromobenzene	<0.50		0.50		ug/L			06/20/12 18:19	1
Bromoform	<0.50		0.50		ug/L			06/20/12 18:19	1
Bromomethane	<1.0		1.0		ug/L			06/20/12 18:19	1
Carbon tetrachloride	<0.50		0.50		ug/L			06/20/12 18:19	1
Chlorobenzene	<0.50		0.50		ug/L			06/20/12 18:19	1
Chlorodibromomethane	<0.50		0.50		ug/L			06/20/12 18:19	1
Chloroethane	<1.0		1.0		ug/L			06/20/12 18:19	1
Chloroform	<0.50		0.50		ug/L			06/20/12 18:19	1
Chloromethane	<0.50		0.50		ug/L			06/20/12 18:19	1
2-Chlorotoluene	<0.50		0.50		ug/L			06/20/12 18:19	1
4-Chlorotoluene	<0.50		0.50		ug/L			06/20/12 18:19	1
cis-1,2-Dichloroethene	1.5		0.50		ug/L			06/20/12 18:19	1
cis-1,3-Dichloropropene	<0.50		0.50		ug/L			06/20/12 18:19	1
Dibromomethane	<0.50		0.50		ug/L			06/20/12 18:19	1
1,2-Dichlorobenzene	<0.50		0.50		ug/L			06/20/12 18:19	1
1,3-Dichlorobenzene	<0.50		0.50		ug/L			06/20/12 18:19	1
1,4-Dichlorobenzene	<0.50		0.50		ug/L			06/20/12 18:19	1
Dichlorobromomethane	<1.0		1.0		ug/L			06/20/12 18:19	1
1,1-Dichloroethane	<0.50		0.50		ug/L			06/20/12 18:19	1
1,2-Dichloroethane	<0.50		0.50		ug/L			06/20/12 18:19	1
1,1-Dichloroethene	<0.50		0.50		ug/L			06/20/12 18:19	1
1,2-Dichloropropane	<0.50		0.50		ug/L			06/20/12 18:19	1
1,3-Dichloropropane	<0.50		0.50		ug/L			06/20/12 18:19	1
2,2-Dichloropropane	<0.50		0.50		ug/L			06/20/12 18:19	1
1,1-Dichloropropene	<0.50		0.50		ug/L			06/20/12 18:19	1
Ethylbenzene	<0.50		0.50		ug/L			06/20/12 18:19	1
Methylene Chloride	<0.50		0.50		ug/L			06/20/12 18:19	1
Methyl tert-butyl ether	<0.50		0.50		ug/L			06/20/12 18:19	1
m-Xylene & p-Xylene	<0.50		0.50		ug/L			06/20/12 18:19	1
o-Xylene	<0.50		0.50		ug/L			06/20/12 18:19	1
Styrene	<0.50		0.50		ug/L			06/20/12 18:19	1
1,1,1,2-Tetrachloroethane	<0.50		0.50		ug/L			06/20/12 18:19	1
1,1,2,2-Tetrachloroethane	<0.50		0.50		ug/L			06/20/12 18:19	1
Tetrachloroethene	<0.50		0.50		ug/L			06/20/12 18:19	1
Toluene	<0.50		0.50		ug/L			06/20/12 18:19	1
trans-1,2-Dichloroethene	<0.50		0.50		ug/L			06/20/12 18:19	1
trans-1,3-Dichloropropene	<0.50		0.50		ug/L			06/20/12 18:19	1
1,2,4-Trichlorobenzene	<0.50		0.50		ug/L			06/20/12 18:19	1
1,1,1-Trichloroethane	<0.50		0.50		ug/L			06/20/12 18:19	1
1,1,2-Trichloroethane	<0.50		0.50		ug/L			06/20/12 18:19	1
Trichloroethene	0.60		0.50		ug/L			06/20/12 18:19	1
1,2,3-Trichloropropane	<0.50		0.50		ug/L			06/20/12 18:19	1
Vinyl chloride	<0.50		0.50		ug/L			06/20/12 18:19	1
Xylenes, Total	<0.50		0.50		ug/L			06/20/12 18:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	88		70 - 130			
1,2-Dichlorobenzene-d4	80		70 - 130			

Client Sample Results

Client: AECOM, Inc.

Project/Site: Granville - VOC -I JUNE 2012

TestAmerica Job ID: 680-80212-2

Client Sample ID: Dupe01-060612

Date Collected: 06/06/12 00:00

Date Received: 06/09/12 09:39

Lab Sample ID: 680-80212-10

Matrix: Water

Method: 524.2 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.50		0.50		ug/L			06/20/12 18:41	1
Bromobenzene	<0.50		0.50		ug/L			06/20/12 18:41	1
Bromoform	<0.50		0.50		ug/L			06/20/12 18:41	1
Bromomethane	<1.0		1.0		ug/L			06/20/12 18:41	1
Carbon tetrachloride	<0.50		0.50		ug/L			06/20/12 18:41	1
Chlorobenzene	<0.50		0.50		ug/L			06/20/12 18:41	1
Chlorodibromomethane	<0.50		0.50		ug/L			06/20/12 18:41	1
Chloroethane	<1.0		1.0		ug/L			06/20/12 18:41	1
Chloroform	<0.50		0.50		ug/L			06/20/12 18:41	1
Chloromethane	<0.50		0.50		ug/L			06/20/12 18:41	1
2-Chlorotoluene	<0.50		0.50		ug/L			06/20/12 18:41	1
4-Chlorotoluene	<0.50		0.50		ug/L			06/20/12 18:41	1
cis-1,2-Dichloroethene	1.1		0.50		ug/L			06/20/12 18:41	1
cis-1,3-Dichloropropene	<0.50		0.50		ug/L			06/20/12 18:41	1
Dibromomethane	<0.50		0.50		ug/L			06/20/12 18:41	1
1,2-Dichlorobenzene	<0.50		0.50		ug/L			06/20/12 18:41	1
1,3-Dichlorobenzene	<0.50		0.50		ug/L			06/20/12 18:41	1
1,4-Dichlorobenzene	<0.50		0.50		ug/L			06/20/12 18:41	1
Dichlorobromomethane	<1.0		1.0		ug/L			06/20/12 18:41	1
1,1-Dichloroethane	<0.50		0.50		ug/L			06/20/12 18:41	1
1,2-Dichloroethane	<0.50		0.50		ug/L			06/20/12 18:41	1
1,1-Dichloroethene	<0.50		0.50		ug/L			06/20/12 18:41	1
1,2-Dichloropropane	<0.50		0.50		ug/L			06/20/12 18:41	1
1,3-Dichloropropane	<0.50		0.50		ug/L			06/20/12 18:41	1
2,2-Dichloropropane	<0.50		0.50		ug/L			06/20/12 18:41	1
1,1-Dichloropropene	<0.50		0.50		ug/L			06/20/12 18:41	1
Ethylbenzene	<0.50		0.50		ug/L			06/20/12 18:41	1
Methylene Chloride	<0.50		0.50		ug/L			06/20/12 18:41	1
Methyl tert-butyl ether	<0.50		0.50		ug/L			06/20/12 18:41	1
m-Xylene & p-Xylene	<0.50		0.50		ug/L			06/20/12 18:41	1
o-Xylene	<0.50		0.50		ug/L			06/20/12 18:41	1
Styrene	<0.50		0.50		ug/L			06/20/12 18:41	1
1,1,1,2-Tetrachloroethane	<0.50		0.50		ug/L			06/20/12 18:41	1
1,1,2,2-Tetrachloroethane	<0.50		0.50		ug/L			06/20/12 18:41	1
Tetrachloroethene	<0.50		0.50		ug/L			06/20/12 18:41	1
Toluene	<0.50		0.50		ug/L			06/20/12 18:41	1
trans-1,2-Dichloroethene	<0.50		0.50		ug/L			06/20/12 18:41	1
trans-1,3-Dichloropropene	<0.50		0.50		ug/L			06/20/12 18:41	1
1,2,4-Trichlorobenzene	<0.50		0.50		ug/L			06/20/12 18:41	1
1,1,1-Trichloroethane	<0.50		0.50		ug/L			06/20/12 18:41	1
1,1,2-Trichloroethane	<0.50		0.50		ug/L			06/20/12 18:41	1
Trichloroethene	0.61		0.50		ug/L			06/20/12 18:41	1
1,2,3-Trichloropropane	<0.50		0.50		ug/L			06/20/12 18:41	1
Vinyl chloride	<0.50		0.50		ug/L			06/20/12 18:41	1
Xylenes, Total	<0.50		0.50		ug/L			06/20/12 18:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	88		70 - 130			
1,2-Dichlorobenzene-d4	79		70 - 130			

Client Sample Results

Client: AECOM, Inc.

Project/Site: Granville - VOC -I JUNE 2012

TestAmerica Job ID: 680-80212-2

Client Sample ID: TB-060512

Date Collected: 06/05/12 00:00

Date Received: 06/09/12 09:39

Lab Sample ID: 680-80212-15

Matrix: Water

Method: 524.2 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.50		0.50		ug/L			06/18/12 22:46	1
Bromobenzene	<0.50		0.50		ug/L			06/18/12 22:46	1
Bromoform	<0.50		0.50		ug/L			06/18/12 22:46	1
Bromomethane	<1.0		1.0		ug/L			06/18/12 22:46	1
Carbon tetrachloride	<0.50		0.50		ug/L			06/18/12 22:46	1
Chlorobenzene	<0.50		0.50		ug/L			06/18/12 22:46	1
Chlorodibromomethane	<0.50		0.50		ug/L			06/18/12 22:46	1
Chloroethane	<1.0		1.0		ug/L			06/18/12 22:46	1
Chloroform	<0.50		0.50		ug/L			06/18/12 22:46	1
Chloromethane	<0.50		0.50		ug/L			06/18/12 22:46	1
2-Chlorotoluene	<0.50		0.50		ug/L			06/18/12 22:46	1
4-Chlorotoluene	<0.50		0.50		ug/L			06/18/12 22:46	1
cis-1,2-Dichloroethene	<0.50		0.50		ug/L			06/18/12 22:46	1
cis-1,3-Dichloropropene	<0.50		0.50		ug/L			06/18/12 22:46	1
Dibromomethane	<0.50		0.50		ug/L			06/18/12 22:46	1
1,2-Dichlorobenzene	<0.50		0.50		ug/L			06/18/12 22:46	1
1,3-Dichlorobenzene	<0.50		0.50		ug/L			06/18/12 22:46	1
1,4-Dichlorobenzene	<0.50		0.50		ug/L			06/18/12 22:46	1
Dichlorobromomethane	<1.0		1.0		ug/L			06/18/12 22:46	1
1,1-Dichloroethane	<0.50		0.50		ug/L			06/18/12 22:46	1
1,2-Dichloroethane	<0.50		0.50		ug/L			06/18/12 22:46	1
1,1-Dichloroethene	<0.50		0.50		ug/L			06/18/12 22:46	1
1,2-Dichloropropane	<0.50		0.50		ug/L			06/18/12 22:46	1
1,3-Dichloropropane	<0.50		0.50		ug/L			06/18/12 22:46	1
2,2-Dichloropropane	<0.50		0.50		ug/L			06/18/12 22:46	1
1,1-Dichloropropene	<0.50		0.50		ug/L			06/18/12 22:46	1
Ethylbenzene	<0.50		0.50		ug/L			06/18/12 22:46	1
Methylene Chloride	<0.50		0.50		ug/L			06/18/12 22:46	1
Methyl tert-butyl ether	<0.50		0.50		ug/L			06/18/12 22:46	1
m-Xylene & p-Xylene	<0.50		0.50		ug/L			06/18/12 22:46	1
o-Xylene	<0.50		0.50		ug/L			06/18/12 22:46	1
Styrene	<0.50		0.50		ug/L			06/18/12 22:46	1
1,1,1,2-Tetrachloroethane	<0.50		0.50		ug/L			06/18/12 22:46	1
1,1,2,2-Tetrachloroethane	<0.50		0.50		ug/L			06/18/12 22:46	1
Tetrachloroethene	<0.50		0.50		ug/L			06/18/12 22:46	1
Toluene	<0.50		0.50		ug/L			06/18/12 22:46	1
trans-1,2-Dichloroethene	<0.50		0.50		ug/L			06/18/12 22:46	1
trans-1,3-Dichloropropene	<0.50		0.50		ug/L			06/18/12 22:46	1
1,2,4-Trichlorobenzene	<0.50		0.50		ug/L			06/18/12 22:46	1
1,1,1-Trichloroethane	<0.50		0.50		ug/L			06/18/12 22:46	1
1,1,2-Trichloroethane	<0.50		0.50		ug/L			06/18/12 22:46	1
Trichloroethene	<0.50		0.50		ug/L			06/18/12 22:46	1
1,2,3-Trichloropropane	<0.50		0.50		ug/L			06/18/12 22:46	1
Vinyl chloride	<0.50		0.50		ug/L			06/18/12 22:46	1
Xylenes, Total	<0.50		0.50		ug/L			06/18/12 22:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	93		70 - 130			
1,2-Dichlorobenzene-d4	95		70 - 130			

Surrogate Summary

Client: AECOM, Inc.

Project/Site: Granville - VOC -I JUNE 2012

TestAmerica Job ID: 680-80212-2

Method: 524.2 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BFB (70-130)	12DCB (70-130)
680-80212-1	DG1-060512	94	95
680-80212-2	DG2-060512	90	93
680-80212-3	DG3-060512	94	96
680-80212-4	DG4-060512	93	96
680-80212-5	VG1-25-060612	91	92
680-80212-6	VG1-35-060612	84	84
680-80212-6	VG1-35-060612	92	91
680-80212-7	VG1-45-060612	87	77
680-80212-7MS	VG1-45-060612	78	79
680-80212-7MSD	VG1-45-060612	92	94
680-80212-8	VG1-55-060612	89	79
680-80212-9	VG1-65-060612	88	80
680-80212-10	Dupe01-060612	88	79
680-80212-15	TB-060512	93	95
LCS 680-240747/3	Lab Control Sample	106	114
LCS 680-241019/2	Lab Control Sample	95	89
LCS 680-241021/3	Lab Control Sample	103	110
LCSD 680-240747/4	Lab Control Sample Dup	105	116
LCSD 680-241019/3	Lab Control Sample Dup	91	89
LCSD 680-241021/4	Lab Control Sample Dup	99	105
MB 680-240747/6	Method Blank	98	102
MB 680-241019/5	Method Blank	90	86

Surrogate Legend

BFB = 4-Bromofluorobenzene

12DCB = 1,2-Dichlorobenzene-d4

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville - VOC -I JUNE 2012

TestAmerica Job ID: 680-80212-2

Method: 524.2 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-240747/6

Matrix: Water

Analysis Batch: 240747

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	<0.50		0.50		ug/L			06/18/12 15:56	1
Bromobenzene	<0.50		0.50		ug/L			06/18/12 15:56	1
Bromoform	<0.50		0.50		ug/L			06/18/12 15:56	1
Bromomethane	<1.0		1.0		ug/L			06/18/12 15:56	1
Carbon tetrachloride	<0.50		0.50		ug/L			06/18/12 15:56	1
Chlorobenzene	<0.50		0.50		ug/L			06/18/12 15:56	1
Chlorodibromomethane	<0.50		0.50		ug/L			06/18/12 15:56	1
Chloroethane	<1.0		1.0		ug/L			06/18/12 15:56	1
Chloroform	<0.50		0.50		ug/L			06/18/12 15:56	1
Chloromethane	<0.50		0.50		ug/L			06/18/12 15:56	1
2-Chlorotoluene	<0.50		0.50		ug/L			06/18/12 15:56	1
4-Chlorotoluene	<0.50		0.50		ug/L			06/18/12 15:56	1
cis-1,2-Dichloroethene	<0.50		0.50		ug/L			06/18/12 15:56	1
cis-1,3-Dichloropropene	<0.50		0.50		ug/L			06/18/12 15:56	1
Dibromomethane	<0.50		0.50		ug/L			06/18/12 15:56	1
1,2-Dichlorobenzene	<0.50		0.50		ug/L			06/18/12 15:56	1
1,3-Dichlorobenzene	<0.50		0.50		ug/L			06/18/12 15:56	1
1,4-Dichlorobenzene	<0.50		0.50		ug/L			06/18/12 15:56	1
Dichlorobromomethane	<1.0		1.0		ug/L			06/18/12 15:56	1
1,1-Dichloroethane	<0.50		0.50		ug/L			06/18/12 15:56	1
1,2-Dichloroethane	<0.50		0.50		ug/L			06/18/12 15:56	1
1,1-Dichloroethene	<0.50		0.50		ug/L			06/18/12 15:56	1
1,2-Dichloropropane	<0.50		0.50		ug/L			06/18/12 15:56	1
1,3-Dichloropropane	<0.50		0.50		ug/L			06/18/12 15:56	1
2,2-Dichloropropane	<0.50		0.50		ug/L			06/18/12 15:56	1
1,1-Dichloropropene	<0.50		0.50		ug/L			06/18/12 15:56	1
Ethylbenzene	<0.50		0.50		ug/L			06/18/12 15:56	1
Methylene Chloride	<0.50		0.50		ug/L			06/18/12 15:56	1
Methyl tert-butyl ether	<0.50		0.50		ug/L			06/18/12 15:56	1
m-Xylene & p-Xylene	<0.50		0.50		ug/L			06/18/12 15:56	1
o-Xylene	<0.50		0.50		ug/L			06/18/12 15:56	1
Styrene	<0.50		0.50		ug/L			06/18/12 15:56	1
1,1,1,2-Tetrachloroethane	<0.50		0.50		ug/L			06/18/12 15:56	1
1,1,2,2-Tetrachloroethane	<0.50		0.50		ug/L			06/18/12 15:56	1
Tetrachloroethene	<0.50		0.50		ug/L			06/18/12 15:56	1
Toluene	<0.50		0.50		ug/L			06/18/12 15:56	1
trans-1,2-Dichloroethene	<0.50		0.50		ug/L			06/18/12 15:56	1
trans-1,3-Dichloropropene	<0.50		0.50		ug/L			06/18/12 15:56	1
1,2,4-Trichlorobenzene	<0.50		0.50		ug/L			06/18/12 15:56	1
1,1,1-Trichloroethane	<0.50		0.50		ug/L			06/18/12 15:56	1
1,1,2-Trichloroethane	<0.50		0.50		ug/L			06/18/12 15:56	1
Trichloroethene	<0.50		0.50		ug/L			06/18/12 15:56	1
1,2,3-Trichloropropane	<0.50		0.50		ug/L			06/18/12 15:56	1
Vinyl chloride	<0.50		0.50		ug/L			06/18/12 15:56	1
Xylenes, Total	<0.50		0.50		ug/L			06/18/12 15:56	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	98		70 - 130			1
1,2-Dichlorobenzene-d4	102		70 - 130			1

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville - VOC -I JUNE 2012

TestAmerica Job ID: 680-80212-2

Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-240747/3

Matrix: Water

Analysis Batch: 240747

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	Limits
Benzene	20.0	19.5		ug/L	97	100	70 - 130	
Bromobenzene	20.0	21.9		ug/L	110	105	70 - 130	
Bromoform	20.0	21.3		ug/L	107	103	70 - 130	
Bromomethane	20.0	17.6		ug/L	88	80	70 - 130	
Carbon tetrachloride	20.0	22.2		ug/L	111	105	70 - 130	
Chlorobenzene	20.0	21.0		ug/L	105	100	70 - 130	
Chlorodibromomethane	20.0	23.0		ug/L	115	105	70 - 130	
Chloroethane	20.0	19.6		ug/L	98	90	70 - 130	
Chloroform	20.0	20.2		ug/L	101	95	70 - 130	
Chloromethane	20.0	20.1		ug/L	100	95	70 - 130	
2-Chlorotoluene	20.0	21.0		ug/L	105	95	70 - 130	
4-Chlorotoluene	20.0	20.9		ug/L	104	94	70 - 130	
cis-1,2-Dichloroethene	20.0	20.6		ug/L	103	93	70 - 130	
cis-1,3-Dichloropropene	20.0	20.4		ug/L	102	92	70 - 130	
Dibromomethane	20.0	20.3		ug/L	101	91	70 - 130	
1,2-Dichlorobenzene	20.0	22.2		ug/L	111	105	70 - 130	
1,3-Dichlorobenzene	20.0	22.6		ug/L	113	107	70 - 130	
1,4-Dichlorobenzene	20.0	21.7		ug/L	109	100	70 - 130	
Dichlorobromomethane	20.0	21.2		ug/L	106	96	70 - 130	
1,1-Dichloroethane	20.0	20.2		ug/L	101	91	70 - 130	
1,2-Dichloroethane	20.0	19.7		ug/L	99	89	70 - 130	
1,1-Dichloroethene	20.0	19.9		ug/L	99	90	70 - 130	
1,2-Dichloropropene	20.0	19.7		ug/L	98	90	70 - 130	
1,3-Dichloropropene	20.0	19.3		ug/L	96	88	70 - 130	
2,2-Dichloropropene	20.0	21.5		ug/L	107	100	70 - 130	
1,1-Dichloropropene	20.0	19.9		ug/L	100	92	70 - 130	
Ethylbenzene	20.0	21.1		ug/L	106	96	70 - 130	
Methylene Chloride	20.0	19.8		ug/L	99	90	70 - 130	
Methyl tert-butyl ether	16.0	15.6		ug/L	98	88	70 - 130	
m-Xylene & p-Xylene	40.0	43.3		ug/L	108	105	70 - 130	
o-Xylene	20.0	20.9		ug/L	105	95	70 - 130	
Styrene	20.0	22.2		ug/L	111	105	70 - 130	
1,1,1,2-Tetrachloroethane	20.0	22.4		ug/L	112	107	70 - 130	
1,1,2,2-Tetrachloroethane	20.0	19.0		ug/L	95	85	70 - 130	
Tetrachloroethene	20.0	22.1		ug/L	110	104	70 - 130	
Toluene	20.0	20.9		ug/L	104	94	70 - 130	
trans-1,2-Dichloroethene	20.0	20.3		ug/L	102	92	70 - 130	
trans-1,3-Dichloropropene	20.0	20.9		ug/L	105	95	70 - 130	
1,2,4-Trichlorobenzene	20.0	20.1		ug/L	100	90	70 - 130	
1,1,1-Trichloroethane	20.0	21.4		ug/L	107	97	70 - 130	
1,1,2-Trichloroethane	20.0	20.4		ug/L	102	92	70 - 130	
Trichloroethene	20.0	20.7		ug/L	103	93	70 - 130	
1,2,3-Trichloropropane	20.0	19.7		ug/L	98	88	70 - 130	
Vinyl chloride	20.0	20.2		ug/L	101	91	70 - 130	
Xylenes, Total	60.0	64.2		ug/L	107	100	70 - 130	

Surrogate	LCS	LCS	
	%Recovery	Qualifier	Limits
4-Bromofluorobenzene	106		70 - 130
1,2-Dichlorobenzene-d4	114		70 - 130

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville - VOC -I JUNE 2012

TestAmerica Job ID: 680-80212-2

Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-240747/4

Matrix: Water

Analysis Batch: 240747

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	20.0	19.4		ug/L	97	70 - 130	1	30	
Bromobenzene	20.0	22.3		ug/L	112	70 - 130	2	30	
Bromoform	20.0	21.6		ug/L	108	70 - 130	1	30	
Bromomethane	20.0	19.1		ug/L	96	70 - 130	9	30	
Carbon tetrachloride	20.0	22.5		ug/L	112	70 - 130	1	30	
Chlorobenzene	20.0	21.2		ug/L	106	70 - 130	1	30	
Chlorodibromomethane	20.0	23.2		ug/L	116	70 - 130	1	30	
Chloroethane	20.0	19.6		ug/L	98	70 - 130	0	30	
Chloroform	20.0	19.8		ug/L	99	70 - 130	2	30	
Chloromethane	20.0	19.4		ug/L	97	70 - 130	3	30	
2-Chlorotoluene	20.0	20.8		ug/L	104	70 - 130	1	30	
4-Chlorotoluene	20.0	20.7		ug/L	103	70 - 130	1	30	
cis-1,2-Dichloroethene	20.0	20.2		ug/L	101	70 - 130	2	30	
cis-1,3-Dichloropropene	20.0	20.0		ug/L	100	70 - 130	2	30	
Dibromomethane	20.0	20.0		ug/L	100	70 - 130	2	30	
1,2-Dichlorobenzene	20.0	22.3		ug/L	111	70 - 130	0	30	
1,3-Dichlorobenzene	20.0	23.0		ug/L	115	70 - 130	2	30	
1,4-Dichlorobenzene	20.0	22.0		ug/L	110	70 - 130	1	30	
Dichlorobromomethane	20.0	21.1		ug/L	105	70 - 130	0	30	
1,1-Dichloroethane	20.0	19.6		ug/L	98	70 - 130	3	30	
1,2-Dichloroethane	20.0	18.9		ug/L	94	70 - 130	4	30	
1,1-Dichloroethene	20.0	19.5		ug/L	97	70 - 130	2	30	
1,2-Dichloropropene	20.0	19.2		ug/L	96	70 - 130	2	30	
1,3-Dichloropropene	20.0	18.8		ug/L	94	70 - 130	3	30	
2,2-Dichloropropene	20.0	20.6		ug/L	103	70 - 130	4	30	
1,1-Dichloropropene	20.0	20.2		ug/L	101	70 - 130	1	30	
Ethylbenzene	20.0	20.9		ug/L	104	70 - 130	1	30	
Methylene Chloride	20.0	19.6		ug/L	98	70 - 130	1	30	
Methyl tert-butyl ether	16.0	15.0		ug/L	94	70 - 130	4	30	
m-Xylene & p-Xylene	40.0	43.4		ug/L	109	70 - 130	0	30	
o-Xylene	20.0	21.1		ug/L	105	70 - 130	1	30	
Styrene	20.0	22.3		ug/L	111	70 - 130	0	30	
1,1,1,2-Tetrachloroethane	20.0	22.7		ug/L	114	70 - 130	1	30	
1,1,2,2-Tetrachloroethane	20.0	18.3		ug/L	92	70 - 130	4	30	
Tetrachloroethene	20.0	22.0		ug/L	110	70 - 130	1	30	
Toluene	20.0	20.9		ug/L	104	70 - 130	0	30	
trans-1,2-Dichloroethene	20.0	20.0		ug/L	100	70 - 130	2	30	
trans-1,3-Dichloropropene	20.0	20.1		ug/L	101	70 - 130	4	30	
1,2,4-Trichlorobenzene	20.0	20.7		ug/L	104	70 - 130	3	30	
1,1,1-Trichloroethane	20.0	21.2		ug/L	106	70 - 130	1	30	
1,1,2-Trichloroethane	20.0	19.7		ug/L	99	70 - 130	3	30	
Trichloroethene	20.0	21.2		ug/L	106	70 - 130	2	30	
1,2,3-Trichloropropane	20.0	20.2		ug/L	101	70 - 130	3	30	
Vinyl chloride	20.0	19.7		ug/L	99	70 - 130	2	30	
Xylenes, Total	60.0	64.5		ug/L	107	70 - 130	0	30	

Surrogate	LCSD	LCSD	
	%Recovery	Qualifier	Limits
4-Bromofluorobenzene	105		70 - 130
1,2-Dichlorobenzene-d4	116		70 - 130

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville - VOC -I JUNE 2012

TestAmerica Job ID: 680-80212-2

Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 680-241019/5

Matrix: Water

Analysis Batch: 241019

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	<0.50		0.50		ug/L			06/20/12 16:40	1
Bromobenzene	<0.50		0.50		ug/L			06/20/12 16:40	1
Bromoform	<0.50		0.50		ug/L			06/20/12 16:40	1
Bromomethane	<1.0		1.0		ug/L			06/20/12 16:40	1
Carbon tetrachloride	<0.50		0.50		ug/L			06/20/12 16:40	1
Chlorobenzene	<0.50		0.50		ug/L			06/20/12 16:40	1
Chlorodibromomethane	<0.50		0.50		ug/L			06/20/12 16:40	1
Chloroethane	<1.0		1.0		ug/L			06/20/12 16:40	1
Chloroform	<0.50		0.50		ug/L			06/20/12 16:40	1
Chloromethane	<0.50		0.50		ug/L			06/20/12 16:40	1
2-Chlorotoluene	<0.50		0.50		ug/L			06/20/12 16:40	1
4-Chlorotoluene	<0.50		0.50		ug/L			06/20/12 16:40	1
cis-1,2-Dichloroethene	<0.50		0.50		ug/L			06/20/12 16:40	1
cis-1,3-Dichloropropene	<0.50		0.50		ug/L			06/20/12 16:40	1
Dibromomethane	<0.50		0.50		ug/L			06/20/12 16:40	1
1,2-Dichlorobenzene	<0.50		0.50		ug/L			06/20/12 16:40	1
1,3-Dichlorobenzene	<0.50		0.50		ug/L			06/20/12 16:40	1
1,4-Dichlorobenzene	<0.50		0.50		ug/L			06/20/12 16:40	1
Dichlorobromomethane	<1.0		1.0		ug/L			06/20/12 16:40	1
1,1-Dichloroethane	<0.50		0.50		ug/L			06/20/12 16:40	1
1,2-Dichloroethane	<0.50		0.50		ug/L			06/20/12 16:40	1
1,1-Dichloroethene	<0.50		0.50		ug/L			06/20/12 16:40	1
1,2-Dichloropropane	<0.50		0.50		ug/L			06/20/12 16:40	1
1,3-Dichloropropane	<0.50		0.50		ug/L			06/20/12 16:40	1
2,2-Dichloropropane	<0.50		0.50		ug/L			06/20/12 16:40	1
1,1-Dichloropropene	<0.50		0.50		ug/L			06/20/12 16:40	1
Ethylbenzene	<0.50		0.50		ug/L			06/20/12 16:40	1
Methylene Chloride	<0.50		0.50		ug/L			06/20/12 16:40	1
Methyl tert-butyl ether	<0.50		0.50		ug/L			06/20/12 16:40	1
m-Xylene & p-Xylene	<0.50		0.50		ug/L			06/20/12 16:40	1
o-Xylene	<0.50		0.50		ug/L			06/20/12 16:40	1
Styrene	<0.50		0.50		ug/L			06/20/12 16:40	1
1,1,1,2-Tetrachloroethane	<0.50		0.50		ug/L			06/20/12 16:40	1
1,1,2,2-Tetrachloroethane	<0.50		0.50		ug/L			06/20/12 16:40	1
Tetrachloroethene	<0.50		0.50		ug/L			06/20/12 16:40	1
Toluene	<0.50		0.50		ug/L			06/20/12 16:40	1
trans-1,2-Dichloroethene	<0.50		0.50		ug/L			06/20/12 16:40	1
trans-1,3-Dichloropropene	<0.50		0.50		ug/L			06/20/12 16:40	1
1,2,4-Trichlorobenzene	<0.50		0.50		ug/L			06/20/12 16:40	1
1,1,1-Trichloroethane	<0.50		0.50		ug/L			06/20/12 16:40	1
1,1,2-Trichloroethane	<0.50		0.50		ug/L			06/20/12 16:40	1
Trichloroethene	<0.50		0.50		ug/L			06/20/12 16:40	1
1,2,3-Trichloropropane	<0.50		0.50		ug/L			06/20/12 16:40	1
Vinyl chloride	<0.50		0.50		ug/L			06/20/12 16:40	1
Xylenes, Total	<0.50		0.50		ug/L			06/20/12 16:40	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	90		70 - 130			1
1,2-Dichlorobenzene-d4	86		70 - 130			1

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville - VOC -I JUNE 2012

TestAmerica Job ID: 680-80212-2

Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-241019/2

Matrix: Water

Analysis Batch: 241019

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	Limits
Benzene	20.0	19.2		ug/L	96	70 - 130		
Bromobenzene	20.0	18.6		ug/L	93	70 - 130		
Bromoform	20.0	17.8		ug/L	89	70 - 130		
Bromomethane	20.0	20.5		ug/L	103	70 - 130		
Carbon tetrachloride	20.0	19.1		ug/L	96	70 - 130		
Chlorobenzene	20.0	19.2		ug/L	96	70 - 130		
Chlorodibromomethane	20.0	17.3		ug/L	86	70 - 130		
Chloroethane	20.0	19.0		ug/L	95	70 - 130		
Chloroform	20.0	19.3		ug/L	96	70 - 130		
Chloromethane	20.0	16.6		ug/L	83	70 - 130		
2-Chlorotoluene	20.0	19.0		ug/L	95	70 - 130		
4-Chlorotoluene	20.0	19.5		ug/L	97	70 - 130		
cis-1,2-Dichloroethene	20.0	19.5		ug/L	98	70 - 130		
cis-1,3-Dichloropropene	20.0	18.8		ug/L	94	70 - 130		
Dibromomethane	20.0	17.2		ug/L	86	70 - 130		
1,2-Dichlorobenzene	20.0	18.1		ug/L	90	70 - 130		
1,3-Dichlorobenzene	20.0	18.8		ug/L	94	70 - 130		
1,4-Dichlorobenzene	20.0	18.6		ug/L	93	70 - 130		
Dichlorobromomethane	20.0	18.3		ug/L	92	70 - 130		
1,1-Dichloroethane	20.0	18.8		ug/L	94	70 - 130		
1,2-Dichloroethane	20.0	18.2		ug/L	91	70 - 130		
1,1-Dichloroethene	20.0	18.9		ug/L	95	70 - 130		
1,2-Dichloropropene	20.0	18.9		ug/L	94	70 - 130		
1,3-Dichloropropene	20.0	18.2		ug/L	91	70 - 130		
2,2-Dichloropropane	20.0	18.2		ug/L	91	70 - 130		
1,1-Dichloropropene	20.0	19.8		ug/L	99	70 - 130		
Ethylbenzene	20.0	19.4		ug/L	97	70 - 130		
Methylene Chloride	20.0	18.3		ug/L	91	70 - 130		
Methyl tert-butyl ether	16.0	14.4		ug/L	90	70 - 130		
m-Xylene & p-Xylene	40.0	38.8		ug/L	97	70 - 130		
o-Xylene	20.0	18.9		ug/L	94	70 - 130		
Styrene	20.0	19.7		ug/L	99	70 - 130		
1,1,1,2-Tetrachloroethane	20.0	19.1		ug/L	95	70 - 130		
1,1,2,2-Tetrachloroethane	20.0	16.7		ug/L	84	70 - 130		
Tetrachloroethene	20.0	19.2		ug/L	96	70 - 130		
Toluene	20.0	18.9		ug/L	94	70 - 130		
trans-1,2-Dichloroethene	20.0	19.6		ug/L	98	70 - 130		
trans-1,3-Dichloropropene	20.0	17.6		ug/L	88	70 - 130		
1,2,4-Trichlorobenzene	20.0	19.3		ug/L	97	70 - 130		
1,1,1-Trichloroethane	20.0	19.2		ug/L	96	70 - 130		
1,1,2-Trichloroethane	20.0	17.8		ug/L	89	70 - 130		
Trichloroethene	20.0	18.4		ug/L	92	70 - 130		
1,2,3-Trichloropropane	20.0	18.3		ug/L	91	70 - 130		
Vinyl chloride	20.0	18.0		ug/L	90	70 - 130		
Xylenes, Total	60.0	57.7		ug/L	96	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	95		70 - 130
1,2-Dichlorobenzene-d4	89		70 - 130

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville - VOC -I JUNE 2012

TestAmerica Job ID: 680-80212-2

Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-241019/3

Matrix: Water

Analysis Batch: 241019

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	20.0	19.3		ug/L	96	70 - 130	0	30	
Bromobenzene	20.0	18.8		ug/L	94	70 - 130	1	30	
Bromoform	20.0	18.0		ug/L	90	70 - 130	1	30	
Bromomethane	20.0	21.5		ug/L	108	70 - 130	5	30	
Carbon tetrachloride	20.0	19.2		ug/L	96	70 - 130	0	30	
Chlorobenzene	20.0	19.2		ug/L	96	70 - 130	0	30	
Chlorodibromomethane	20.0	17.4		ug/L	87	70 - 130	1	30	
Chloroethane	20.0	19.0		ug/L	95	70 - 130	0	30	
Chloroform	20.0	19.5		ug/L	97	70 - 130	1	30	
Chloromethane	20.0	16.4		ug/L	82	70 - 130	1	30	
2-Chlorotoluene	20.0	19.4		ug/L	97	70 - 130	2	30	
4-Chlorotoluene	20.0	19.7		ug/L	99	70 - 130	1	30	
cis-1,2-Dichloroethene	20.0	20.0		ug/L	100	70 - 130	2	30	
cis-1,3-Dichloropropene	20.0	18.7		ug/L	94	70 - 130	0	30	
Dibromomethane	20.0	17.7		ug/L	89	70 - 130	3	30	
1,2-Dichlorobenzene	20.0	18.4		ug/L	92	70 - 130	2	30	
1,3-Dichlorobenzene	20.0	19.1		ug/L	95	70 - 130	1	30	
1,4-Dichlorobenzene	20.0	19.3		ug/L	97	70 - 130	4	30	
Dichlorobromomethane	20.0	18.9		ug/L	94	70 - 130	3	30	
1,1-Dichloroethane	20.0	19.2		ug/L	96	70 - 130	2	30	
1,2-Dichloroethane	20.0	18.5		ug/L	92	70 - 130	1	30	
1,1-Dichloroethene	20.0	19.2		ug/L	96	70 - 130	2	30	
1,2-Dichloropropene	20.0	19.2		ug/L	96	70 - 130	2	30	
1,3-Dichloropropene	20.0	18.3		ug/L	91	70 - 130	0	30	
2,2-Dichloropropene	20.0	18.9		ug/L	94	70 - 130	4	30	
1,1-Dichloropropene	20.0	19.7		ug/L	99	70 - 130	1	30	
Ethylbenzene	20.0	19.5		ug/L	97	70 - 130	1	30	
Methylene Chloride	20.0	18.7		ug/L	93	70 - 130	2	30	
Methyl tert-butyl ether	16.0	14.4		ug/L	90	70 - 130	0	30	
m-Xylene & p-Xylene	40.0	38.6		ug/L	97	70 - 130	0	30	
o-Xylene	20.0	19.4		ug/L	97	70 - 130	3	30	
Styrene	20.0	20.0		ug/L	100	70 - 130	1	30	
1,1,1,2-Tetrachloroethane	20.0	18.8		ug/L	94	70 - 130	1	30	
1,1,2,2-Tetrachloroethane	20.0	16.6		ug/L	83	70 - 130	1	30	
Tetrachloroethene	20.0	19.2		ug/L	96	70 - 130	0	30	
Toluene	20.0	19.2		ug/L	96	70 - 130	2	30	
trans-1,2-Dichloroethene	20.0	19.7		ug/L	98	70 - 130	0	30	
trans-1,3-Dichloropropene	20.0	17.8		ug/L	89	70 - 130	1	30	
1,2,4-Trichlorobenzene	20.0	19.8		ug/L	99	70 - 130	2	30	
1,1,1-Trichloroethane	20.0	19.4		ug/L	97	70 - 130	1	30	
1,1,2-Trichloroethane	20.0	18.0		ug/L	90	70 - 130	1	30	
Trichloroethene	20.0	18.6		ug/L	93	70 - 130	1	30	
1,2,3-Trichloropropane	20.0	17.7		ug/L	89	70 - 130	3	30	
Vinyl chloride	20.0	17.6		ug/L	88	70 - 130	2	30	
Xylenes, Total	60.0	58.0		ug/L	97	70 - 130	1	30	

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	91		70 - 130
1,2-Dichlorobenzene-d4	89		70 - 130

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville - VOC -I JUNE 2012

TestAmerica Job ID: 680-80212-2

Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-241021/3

Matrix: Water

Analysis Batch: 241021

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	20.0	19.3		ug/L	96	70 - 130	
Bromobenzene	20.0	21.9		ug/L	110	70 - 130	
Bromoform	20.0	22.6		ug/L	113	70 - 130	
Bromomethane	20.0	17.8		ug/L	89	70 - 130	
Carbon tetrachloride	20.0	22.1		ug/L	110	70 - 130	
Chlorobenzene	20.0	20.9		ug/L	105	70 - 130	
Chlorodibromomethane	20.0	23.8		ug/L	119	70 - 130	
Chloroethane	20.0	19.7		ug/L	99	70 - 130	
Chloroform	20.0	19.8		ug/L	99	70 - 130	
Chloromethane	20.0	16.3		ug/L	82	70 - 130	
2-Chlorotoluene	20.0	20.8		ug/L	104	70 - 130	
4-Chlorotoluene	20.0	20.8		ug/L	104	70 - 130	
cis-1,2-Dichloroethene	20.0	19.4		ug/L	97	70 - 130	
cis-1,3-Dichloropropene	20.0	20.8		ug/L	104	70 - 130	
Dibromomethane	20.0	20.3		ug/L	102	70 - 130	
1,2-Dichlorobenzene	20.0	21.8		ug/L	109	70 - 130	
1,3-Dichlorobenzene	20.0	22.3		ug/L	111	70 - 130	
1,4-Dichlorobenzene	20.0	22.0		ug/L	110	70 - 130	
Dichlorobromomethane	20.0	21.2		ug/L	106	70 - 130	
1,1-Dichloroethane	20.0	20.1		ug/L	100	70 - 130	
1,2-Dichloroethane	20.0	19.3		ug/L	97	70 - 130	
1,1-Dichloroethene	20.0	18.7		ug/L	93	70 - 130	
1,2-Dichloropropane	20.0	20.0		ug/L	100	70 - 130	
1,3-Dichloropropane	20.0	19.2		ug/L	96	70 - 130	
2,2-Dichloropropane	20.0	20.9		ug/L	104	70 - 130	
1,1-Dichloropropene	20.0	19.6		ug/L	98	70 - 130	
Ethylbenzene	20.0	21.2		ug/L	106	70 - 130	
Methylene Chloride	20.0	19.0		ug/L	95	70 - 130	
Methyl tert-butyl ether	16.0	16.2		ug/L	101	70 - 130	
m-Xylene & p-Xylene	40.0	42.6		ug/L	106	70 - 130	
o-Xylene	20.0	21.0		ug/L	105	70 - 130	
Styrene	20.0	22.5		ug/L	113	70 - 130	
1,1,1,2-Tetrachloroethane	20.0	22.9		ug/L	114	70 - 130	
1,1,2,2-Tetrachloroethane	20.0	18.9		ug/L	95	70 - 130	
Tetrachloroethene	20.0	21.8		ug/L	109	70 - 130	
Toluene	20.0	20.4		ug/L	102	70 - 130	
trans-1,2-Dichloroethene	20.0	19.3		ug/L	97	70 - 130	
trans-1,3-Dichloropropene	20.0	21.2		ug/L	106	70 - 130	
1,2,4-Trichlorobenzene	20.0	20.1		ug/L	101	70 - 130	
1,1,1-Trichloroethane	20.0	20.8		ug/L	104	70 - 130	
1,1,2-Trichloroethane	20.0	20.4		ug/L	102	70 - 130	
Trichloroethene	20.0	20.3		ug/L	102	70 - 130	
1,2,3-Trichloropropane	20.0	20.5		ug/L	103	70 - 130	
Vinyl chloride	20.0	19.8		ug/L	99	70 - 130	
Xylenes, Total	60.0	63.5		ug/L	106	70 - 130	

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	103		70 - 130
1,2-Dichlorobenzene-d4	110		70 - 130

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville - VOC -I JUNE 2012

TestAmerica Job ID: 680-80212-2

Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-241021/4

Matrix: Water

Analysis Batch: 241021

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	20.0	19.5		ug/L	97	70 - 130	1	30	
Bromobenzene	20.0	21.3		ug/L	106	70 - 130	3	30	
Bromoform	20.0	22.5		ug/L	112	70 - 130	1	30	
Bromomethane	20.0	17.8		ug/L	89	70 - 130	0	30	
Carbon tetrachloride	20.0	22.3		ug/L	111	70 - 130	1	30	
Chlorobenzene	20.0	20.6		ug/L	103	70 - 130	2	30	
Chlorodibromomethane	20.0	23.5		ug/L	117	70 - 130	1	30	
Chloroethane	20.0	19.8		ug/L	99	70 - 130	0	30	
Chloroform	20.0	20.2		ug/L	101	70 - 130	2	30	
Chloromethane	20.0	17.1		ug/L	85	70 - 130	4	30	
2-Chlorotoluene	20.0	20.0		ug/L	100	70 - 130	4	30	
4-Chlorotoluene	20.0	19.9		ug/L	99	70 - 130	5	30	
cis-1,2-Dichloroethene	20.0	19.9		ug/L	100	70 - 130	3	30	
cis-1,3-Dichloropropene	20.0	21.5		ug/L	107	70 - 130	3	30	
Dibromomethane	20.0	20.5		ug/L	102	70 - 130	1	30	
1,2-Dichlorobenzene	20.0	21.0		ug/L	105	70 - 130	4	30	
1,3-Dichlorobenzene	20.0	21.7		ug/L	108	70 - 130	3	30	
1,4-Dichlorobenzene	20.0	20.9		ug/L	105	70 - 130	5	30	
Dichlorobromomethane	20.0	21.3		ug/L	106	70 - 130	0	30	
1,1-Dichloroethane	20.0	19.9		ug/L	99	70 - 130	1	30	
1,2-Dichloroethane	20.0	19.4		ug/L	97	70 - 130	1	30	
1,1-Dichloroethene	20.0	18.9		ug/L	94	70 - 130	1	30	
1,2-Dichloropropane	20.0	19.7		ug/L	98	70 - 130	1	30	
1,3-Dichloropropane	20.0	19.7		ug/L	98	70 - 130	3	30	
2,2-Dichloropropane	20.0	21.2		ug/L	106	70 - 130	1	30	
1,1-Dichloropropene	20.0	19.7		ug/L	98	70 - 130	1	30	
Ethylbenzene	20.0	20.8		ug/L	104	70 - 130	2	30	
Methylene Chloride	20.0	19.6		ug/L	98	70 - 130	3	30	
Methyl tert-butyl ether	16.0	16.3		ug/L	102	70 - 130	0	30	
m-Xylene & p-Xylene	40.0	41.4		ug/L	104	70 - 130	3	30	
o-Xylene	20.0	20.5		ug/L	103	70 - 130	2	30	
Styrene	20.0	21.9		ug/L	110	70 - 130	3	30	
1,1,1,2-Tetrachloroethane	20.0	22.9		ug/L	115	70 - 130	0	30	
1,1,2,2-Tetrachloroethane	20.0	19.2		ug/L	96	70 - 130	1	30	
Tetrachloroethene	20.0	21.2		ug/L	106	70 - 130	3	30	
Toluene	20.0	20.8		ug/L	104	70 - 130	2	30	
trans-1,2-Dichloroethene	20.0	19.4		ug/L	97	70 - 130	0	30	
trans-1,3-Dichloropropene	20.0	21.4		ug/L	107	70 - 130	1	30	
1,2,4-Trichlorobenzene	20.0	18.8		ug/L	94	70 - 130	7	30	
1,1,1-Trichloroethane	20.0	21.1		ug/L	106	70 - 130	1	30	
1,1,2-Trichloroethane	20.0	21.0		ug/L	105	70 - 130	3	30	
Trichloroethene	20.0	20.4		ug/L	102	70 - 130	1	30	
1,2,3-Trichloropropane	20.0	20.7		ug/L	103	70 - 130	1	30	
Vinyl chloride	20.0	20.2		ug/L	101	70 - 130	2	30	
Xylenes, Total	60.0	61.9		ug/L	103	70 - 130	3	30	

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	99		70 - 130
1,2-Dichlorobenzene-d4	105		70 - 130

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville - VOC -I JUNE 2012

TestAmerica Job ID: 680-80212-2

Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 680-80212-7MS

Matrix: Water

Analysis Batch: 241021

Client Sample ID: VG1-45-060612

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				
Benzene	<0.50		20.0	19.6		ug/L	98	70 - 130	
Bromobenzene	<0.50		20.0	17.2		ug/L	86	70 - 130	
Bromoform	<0.50		20.0	13.6	F	ug/L	68	70 - 130	
Bromomethane	<1.0		20.0	15.2		ug/L	76	70 - 130	
Carbon tetrachloride	<0.50		20.0	19.4		ug/L	97	70 - 130	
Chlorobenzene	<0.50		20.0	17.6		ug/L	88	70 - 130	
Chlorodibromomethane	<0.50		20.0	16.5		ug/L	83	70 - 130	
Chloroethane	<1.0		20.0	21.7		ug/L	109	70 - 130	
Chloroform	<0.50		20.0	21.1		ug/L	105	70 - 130	
Chloromethane	<0.50		20.0	21.7		ug/L	108	70 - 130	
2-Chlorotoluene	<0.50		20.0	15.4		ug/L	77	70 - 130	
4-Chlorotoluene	<0.50		20.0	14.2		ug/L	71	70 - 130	
cis-1,2-Dichloroethene	0.84		20.0	21.0		ug/L	101	70 - 130	
cis-1,3-Dichloropropene	<0.50		20.0	16.7		ug/L	84	70 - 130	
Dibromomethane	<0.50		20.0	20.8		ug/L	104	70 - 130	
1,2-Dichlorobenzene	<0.50		20.0	15.1		ug/L	76	70 - 130	
1,3-Dichlorobenzene	<0.50		20.0	14.8		ug/L	74	70 - 130	
1,4-Dichlorobenzene	<0.50		20.0	14.0		ug/L	70	70 - 130	
Dichlorobromomethane	<1.0		20.0	18.1		ug/L	91	70 - 130	
1,1-Dichloroethane	<0.50		20.0	20.8		ug/L	104	70 - 130	
1,2-Dichloroethane	<0.50		20.0	20.0		ug/L	100	70 - 130	
1,1-Dichloroethene	<0.50		20.0	20.7		ug/L	103	70 - 130	
1,2-Dichloropropane	<0.50		20.0	19.6		ug/L	98	70 - 130	
1,3-Dichloropropane	<0.50		20.0	18.1		ug/L	90	70 - 130	
2,2-Dichloropropane	<0.50		20.0	10.5	F	ug/L	53	70 - 130	
1,1-Dichloropropene	<0.50		20.0	17.8		ug/L	89	70 - 130	
Ethylbenzene	<0.50		20.0	16.7		ug/L	83	70 - 130	
Methylene Chloride	<0.50		20.0	21.1		ug/L	106	70 - 130	
Methyl tert-butyl ether	<0.50		16.0	15.7		ug/L	98	70 - 130	
m-Xylene & p-Xylene	<0.50		40.0	33.9		ug/L	85	70 - 130	
o-Xylene	<0.50		20.0	17.4		ug/L	87	70 - 130	
Styrene	<0.50		20.0	17.0		ug/L	85	70 - 130	
1,1,1,2-Tetrachloroethane	<0.50		20.0	20.4		ug/L	102	70 - 130	
1,1,2,2-Tetrachloroethane	<0.50		20.0	17.6		ug/L	88	70 - 130	
Tetrachloroethene	<0.50		20.0	17.6		ug/L	88	70 - 130	
Toluene	<0.50		20.0	18.9		ug/L	95	70 - 130	
trans-1,2-Dichloroethene	<0.50		20.0	21.0		ug/L	105	70 - 130	
trans-1,3-Dichloropropene	<0.50		20.0	16.8		ug/L	84	70 - 130	
1,2,4-Trichlorobenzene	<0.50		20.0	8.48	F	ug/L	42	70 - 130	
1,1,1-Trichloroethane	<0.50		20.0	21.7		ug/L	109	70 - 130	
1,1,2-Trichloroethane	<0.50		20.0	19.4		ug/L	97	70 - 130	
Trichloroethene	<0.50		20.0	19.7		ug/L	96	70 - 130	
1,2,3-Trichloropropane	<0.50		20.0	19.2		ug/L	96	70 - 130	
Vinyl chloride	<0.50		20.0	21.3		ug/L	107	70 - 130	
Xylenes, Total	<0.50		60.0	51.3		ug/L	85	70 - 130	

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	78		70 - 130
1,2-Dichlorobenzene-d4	79		70 - 130

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville - VOC -I JUNE 2012

TestAmerica Job ID: 680-80212-2

Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 680-80212-7MSD

Matrix: Water

Analysis Batch: 241021

Client Sample ID: VG1-45-060612

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier						
Benzene	<0.50		20.0	17.9		ug/L		90	70 - 130	9	30
Bromobenzene	<0.50		20.0	17.0		ug/L		85	70 - 130	1	30
Bromoform	<0.50		20.0	17.4		ug/L		87	70 - 130	25	30
Bromomethane	<1.0		20.0	18.5		ug/L		92	70 - 130	20	30
Carbon tetrachloride	<0.50		20.0	20.0		ug/L		100	70 - 130	3	30
Chlorobenzene	<0.50		20.0	17.4		ug/L		87	70 - 130	1	30
Chlorodibromomethane	<0.50		20.0	19.3		ug/L		96	70 - 130	15	30
Chloroethane	<1.0		20.0	19.0		ug/L		95	70 - 130	14	30
Chloroform	<0.50		20.0	18.6		ug/L		93	70 - 130	12	30
Chloromethane	<0.50		20.0	20.5		ug/L		102	70 - 130	6	30
2-Chlorotoluene	<0.50		20.0	16.4		ug/L		82	70 - 130	6	30
4-Chlorotoluene	<0.50		20.0	15.8		ug/L		79	70 - 130	11	30
cis-1,2-Dichloroethene	0.84		20.0	19.1		ug/L		91	70 - 130	10	30
cis-1,3-Dichloropropene	<0.50		20.0	17.2		ug/L		86	70 - 130	3	30
Dibromomethane	<0.50		20.0	18.1		ug/L		90	70 - 130	14	30
1,2-Dichlorobenzene	<0.50		20.0	16.4		ug/L		82	70 - 130	8	30
1,3-Dichlorobenzene	<0.50		20.0	16.5		ug/L		83	70 - 130	11	30
1,4-Dichlorobenzene	<0.50		20.0	15.5		ug/L		77	70 - 130	10	30
Dichlorobromomethane	<1.0		20.0	18.4		ug/L		92	70 - 130	1	30
1,1-Dichloroethane	<0.50		20.0	18.9		ug/L		95	70 - 130	10	30
1,2-Dichloroethane	<0.50		20.0	17.9		ug/L		89	70 - 130	11	30
1,1-Dichloroethene	<0.50		20.0	19.1		ug/L		95	70 - 130	8	30
1,2-Dichloropropene	<0.50		20.0	18.0		ug/L		90	70 - 130	9	30
1,3-Dichloropropene	<0.50		20.0	16.7		ug/L		84	70 - 130	8	30
2,2-Dichloropropene	<0.50		20.0	17.1	F	ug/L		86	70 - 130	48	30
1,1-Dichloropropene	<0.50		20.0	17.5		ug/L		87	70 - 130	2	30
Ethylbenzene	<0.50		20.0	17.3		ug/L		86	70 - 130	4	30
Methylene Chloride	<0.50		20.0	18.7		ug/L		93	70 - 130	12	30
Methyl tert-butyl ether	<0.50		16.0	14.5		ug/L		90	70 - 130	9	30
m-Xylene & p-Xylene	<0.50		40.0	35.0		ug/L		87	70 - 130	3	30
o-Xylene	<0.50		20.0	17.5		ug/L		87	70 - 130	0	30
Styrene	<0.50		20.0	17.1		ug/L		86	70 - 130	1	30
1,1,1,2-Tetrachloroethane	<0.50		20.0	19.4		ug/L		97	70 - 130	5	30
1,1,2,2-Tetrachloroethane	<0.50		20.0	16.3		ug/L		81	70 - 130	8	30
Tetrachloroethene	<0.50		20.0	17.9		ug/L		90	70 - 130	2	30
Toluene	<0.50		20.0	18.1		ug/L		91	70 - 130	4	30
trans-1,2-Dichloroethene	<0.50		20.0	18.9		ug/L		95	70 - 130	11	30
trans-1,3-Dichloropropene	<0.50		20.0	17.1		ug/L		85	70 - 130	2	30
1,2,4-Trichlorobenzene	<0.50		20.0	11.3	F	ug/L		56	70 - 130	28	30
1,1,1-Trichloroethane	<0.50		20.0	20.2		ug/L		101	70 - 130	7	30
1,1,2-Trichloroethane	<0.50		20.0	17.6		ug/L		88	70 - 130	10	30
Trichloroethene	<0.50		20.0	18.9		ug/L		92	70 - 130	4	30
1,2,3-Trichloropropane	<0.50		20.0	17.6		ug/L		88	70 - 130	9	30
Vinyl chloride	<0.50		20.0	20.8		ug/L		104	70 - 130	3	30
Xylenes, Total	<0.50		60.0	52.5		ug/L		87	70 - 130	2	30

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	92		70 - 130
1,2-Dichlorobenzene-d4	94		70 - 130

QC Association Summary

Client: AECOM, Inc.

Project/Site: Granville - VOC -I JUNE 2012

TestAmerica Job ID: 680-80212-2

GC/MS VOA

Analysis Batch: 240747

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-80212-1	DG1-060512	Total/NA	Water	524.2	1
680-80212-2	DG2-060512	Total/NA	Water	524.2	2
680-80212-3	DG3-060512	Total/NA	Water	524.2	3
680-80212-4	DG4-060512	Total/NA	Water	524.2	4
680-80212-5	VG1-25-060612	Total/NA	Water	524.2	5
680-80212-6	VG1-35-060612	Total/NA	Water	524.2	6
680-80212-15	TB-060512	Total/NA	Water	524.2	7
LCS 680-240747/3	Lab Control Sample	Total/NA	Water	524.2	8
LCSD 680-240747/4	Lab Control Sample Dup	Total/NA	Water	524.2	9
MB 680-240747/6	Method Blank	Total/NA	Water	524.2	10

Analysis Batch: 241019

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-80212-7	VG1-45-060612	Total/NA	Water	524.2	11
680-80212-8	VG1-55-060612	Total/NA	Water	524.2	12
680-80212-9	VG1-65-060612	Total/NA	Water	524.2	13
680-80212-10	Dupe01-060612	Total/NA	Water	524.2	14
LCS 680-241019/2	Lab Control Sample	Total/NA	Water	524.2	15
LCSD 680-241019/3	Lab Control Sample Dup	Total/NA	Water	524.2	
MB 680-241019/5	Method Blank	Total/NA	Water	524.2	

Analysis Batch: 241021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-80212-6	VG1-35-060612	Total/NA	Water	524.2	
680-80212-7MS	VG1-45-060612	Total/NA	Water	524.2	
680-80212-7MSD	VG1-45-060612	Total/NA	Water	524.2	
LCS 680-241021/3	Lab Control Sample	Total/NA	Water	524.2	
LCSD 680-241021/4	Lab Control Sample Dup	Total/NA	Water	524.2	

Lab Chronicle

Client: AECOM, Inc.

TestAmerica Job ID: 680-80212-2

Project/Site: Granville - VOC -I JUNE 2012

Client Sample ID: DG1-060512

Lab Sample ID: 680-80212-1

Matrix: Water

Date Collected: 06/05/12 17:35

Date Received: 06/09/12 09:39

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	524.2		1	240747	06/18/12 19:37	WJC	TAL SAV

Client Sample ID: DG2-060512

Lab Sample ID: 680-80212-2

Matrix: Water

Date Collected: 06/05/12 12:40

Date Received: 06/09/12 09:39

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	524.2		1	240747	06/18/12 20:04	WJC	TAL SAV

Client Sample ID: DG3-060512

Lab Sample ID: 680-80212-3

Matrix: Water

Date Collected: 06/05/12 14:20

Date Received: 06/09/12 09:39

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	524.2		1	240747	06/18/12 20:31	WJC	TAL SAV

Client Sample ID: DG4-060512

Lab Sample ID: 680-80212-4

Matrix: Water

Date Collected: 06/05/12 16:20

Date Received: 06/09/12 09:39

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	524.2		1	240747	06/18/12 20:58	WJC	TAL SAV

Client Sample ID: VG1-25-060612

Lab Sample ID: 680-80212-5

Matrix: Water

Date Collected: 06/06/12 18:55

Date Received: 06/09/12 09:39

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	524.2		1	240747	06/18/12 21:25	WJC	TAL SAV

Client Sample ID: VG1-35-060612

Lab Sample ID: 680-80212-6

Matrix: Water

Date Collected: 06/06/12 18:30

Date Received: 06/09/12 09:39

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	524.2		1	240747	06/18/12 21:52	WJC	TAL SAV
Total/NA	Analysis	524.2		2	241021	06/20/12 17:32	WJC	TAL SAV

Lab Chronicle

Client: AECOM, Inc.

Project/Site: Granville - VOC -I JUNE 2012

TestAmerica Job ID: 680-80212-2

Client Sample ID: VG1-45-060612

Date Collected: 06/06/12 18:00

Date Received: 06/09/12 09:39

Lab Sample ID: 680-80212-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	524.2		1	241019	06/20/12 17:12	WJC	TAL SAV

Client Sample ID: VG1-55-060612

Date Collected: 06/06/12 17:30

Date Received: 06/09/12 09:39

Lab Sample ID: 680-80212-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	524.2		1	241019	06/20/12 17:57	WJC	TAL SAV

Client Sample ID: VG1-65-060612

Date Collected: 06/06/12 17:00

Date Received: 06/09/12 09:39

Lab Sample ID: 680-80212-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	524.2		1	241019	06/20/12 18:19	WJC	TAL SAV

Client Sample ID: Dupe01-060612

Date Collected: 06/06/12 00:00

Date Received: 06/09/12 09:39

Lab Sample ID: 680-80212-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	524.2		1	241019	06/20/12 18:41	WJC	TAL SAV

Client Sample ID: TB-060512

Date Collected: 06/05/12 00:00

Date Received: 06/09/12 09:39

Lab Sample ID: 680-80212-15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	524.2		1	240747	06/18/12 22:46	WJC	TAL SAV

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

TestAmerica

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Alternate Laboratory Name/Location

THE LEADER IN ENVIRONMENTAL TESTING

Phone:
Fax:

PROJECT REFERENCE <i>Granville Schools Site</i>	PROJECT NO. P.O. NUMBER	PROJECT LOCATION (STATE) <i>GA</i>	MATRIX TYPE CONTRACT NO.	REQUIRED ANALYSIS		PAGE <i>1</i> OF <i>2</i>
TAL (LAB) PROJECT MANAGER <i>Linda Gatica</i>	CLIENT PHONE 513-378-6841	CLIENT FAX 513-378-6849				STANDARD REPORT DATE DUE <i> </i>
CLIENT SITE/PIN <i>Ron Koelker</i>	CLIENT E-MAIL <i>Ron.Koelker@qelon.com</i>					EXPEDITED REPORT DELIVERY (SURCHARGE) DATE DUE <i> </i>
CLIENT NAME <i>RECOOL</i>						NUMBER OF COOLERS SUBMITTED PER SHIPMENT: <i> </i>
CLIENT ADDRESS <i>1019 Malsbury Rd. Cincinnati, OH 45242</i>						
COMPONENTS (C) OR GRADE (G) INDICATE AQUEOUS (WATER) SOLID OR SEMI-SOLID AIR NONAQUEOUS LIQUID (OIL, SOLVENT, ...)						
COMPANY CONTRACTING THIS WORK (if applicable)						

SAMPLE	DATE	TIME	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS SUBMITTED	REMARKS
10/15/12	1735		DC1-060512	X	
12/4/12	DC2-060512			X	
14/20	DC3-060512			X	
16/20	DC4-060512			X	
16/12	1855		VG1-25-060612	X	
18/30	VG1-35-060612			X	
18/00	VG1-45-060612			X	
17/30	VG1-55-060612			X	
17/00	VG1-65-060612			X	
	-	Dupe 01-060612		X	
18/00	VG2-45-060612 MS			X	
11/300	VG2-45-060612 MS			X	
REINQUISITION BY: (SIGNATURE) <i>John J. Pay</i>				REINQUISITION BY: (SIGNATURE)	REINQUISITION BY: (SIGNATURE)
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY BY: (SIGNATURE) <i>George Kowman</i>	DATE	TIME	CUSTODY INTACT YES <input checked="" type="radio"/> NO <input type="radio"/>	CUSTODY SEAL NO. <i>b60-36212</i>	LABORATORY REMARKS SAVANNAH LOG NO. <i>b60-36212</i>

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Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 680-80212-2

Login Number: 80212

List Source: TestAmerica Savannah

List Number: 1

Creator: Conner, Keaton

Question	Answer	Comment	
Radioactivity either was not measured or, if measured, is at or below background	N/A		1
The cooler's custody seal, if present, is intact.	True		2
The cooler or samples do not appear to have been compromised or tampered with.	True		3
Samples were received on ice.	True		4
Cooler Temperature is acceptable.	True		5
Cooler Temperature is recorded.	True	5.0 C	6
COC is present.	True		7
COC is filled out in ink and legible.	True		8
COC is filled out with all pertinent information.	True		9
Is the Field Sampler's name present on COC?	N/A		10
There are no discrepancies between the sample IDs on the containers and the COC.	True		11
Samples are received within Holding Time.	True		12
Sample containers have legible labels.	True		13
Containers are not broken or leaking.	True		14
Sample collection date/times are provided.	True		15
Appropriate sample containers are used.	True		
Sample bottles are completely filled.	True		
Sample Preservation Verified.	True		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True		
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True		
Multiphasic samples are not present.	N/A		
Samples do not require splitting or compositing.	N/A		
Residual Chlorine Checked.	N/A		

Certification Summary

Client: AECOM, Inc.

Project/Site: Granville - VOC -I JUNE 2012

TestAmerica Job ID: 680-80212-2

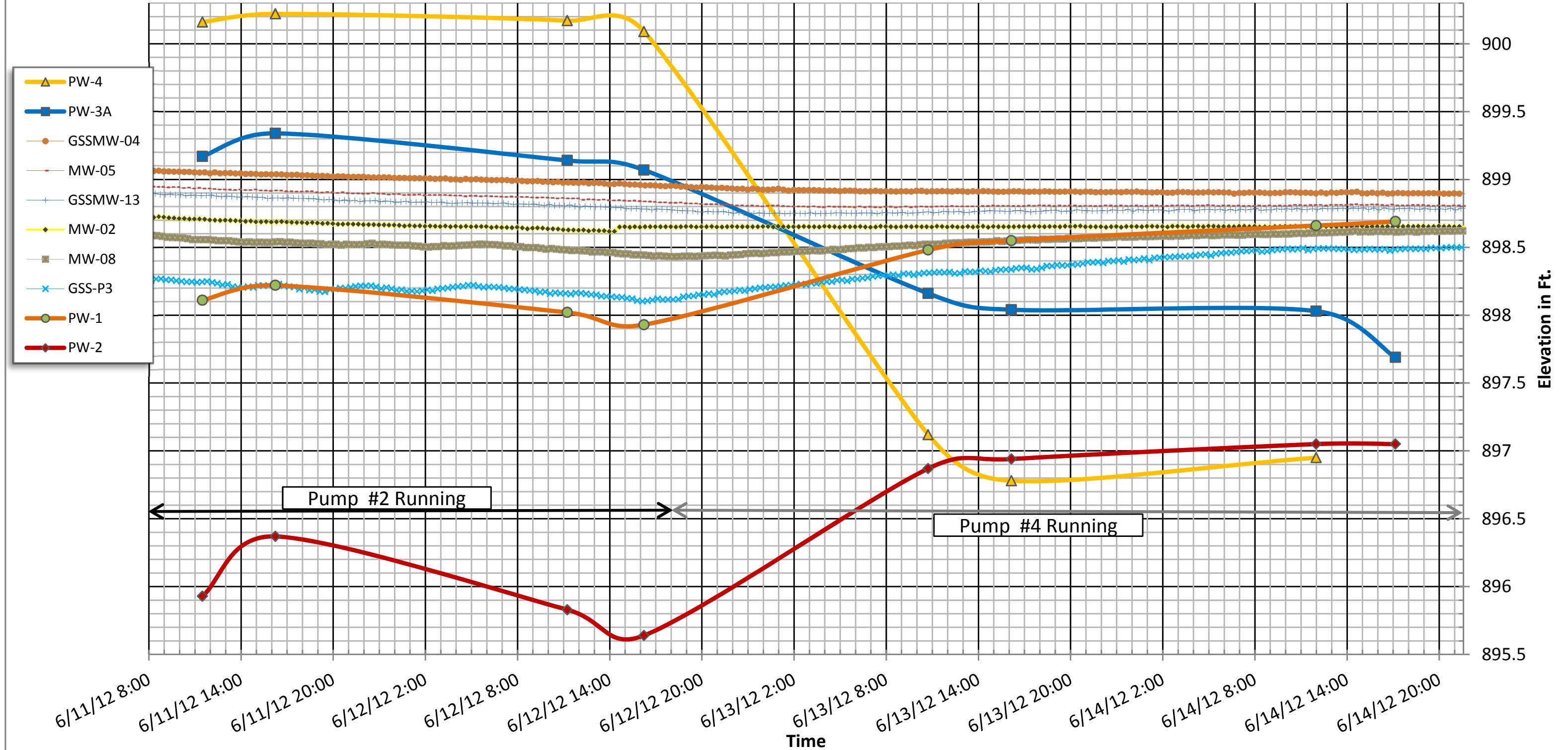
Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Savannah	A2LA	DoD ELAP		0399-01
TestAmerica Savannah	A2LA	ISO/IEC 17025		399.01
TestAmerica Savannah	Alabama	State Program	4	41450
TestAmerica Savannah	Alaska (UST)	State Program	10	UST-104
TestAmerica Savannah	Arkansas DEQ	State Program	6	88-0692
TestAmerica Savannah	California	NELAC	9	3217CA
TestAmerica Savannah	Colorado	State Program	8	N/A
TestAmerica Savannah	Connecticut	State Program	1	PH-0161
TestAmerica Savannah	Florida	NELAC	4	E87052
TestAmerica Savannah	GA Dept. of Agriculture	State Program	4	N/A
TestAmerica Savannah	Georgia	State Program	4	803
TestAmerica Savannah	Georgia	State Program	4	N/A
TestAmerica Savannah	Guam	State Program	9	09-005r
TestAmerica Savannah	Hawaii	State Program	9	N/A
TestAmerica Savannah	Illinois	NELAC	5	200022
TestAmerica Savannah	Indiana	State Program	5	N/A
TestAmerica Savannah	Iowa	State Program	7	353
TestAmerica Savannah	Kentucky	State Program	4	90084
TestAmerica Savannah	Kentucky (UST)	State Program	4	18
TestAmerica Savannah	Louisiana	NELAC	6	30690
TestAmerica Savannah	Louisiana	NELAC	6	LA100015
TestAmerica Savannah	Maine	State Program	1	GA00006
TestAmerica Savannah	Maryland	State Program	3	250
TestAmerica Savannah	Massachusetts	State Program	1	M-GA006
TestAmerica Savannah	Michigan	State Program	5	9925
TestAmerica Savannah	Mississippi	State Program	4	N/A
TestAmerica Savannah	Montana	State Program	8	CERT0081
TestAmerica Savannah	Nebraska	State Program	7	TestAmerica-Savannah
TestAmerica Savannah	New Jersey	NELAC	2	GA769
TestAmerica Savannah	New Mexico	State Program	6	N/A
TestAmerica Savannah	New York	NELAC	2	10842
TestAmerica Savannah	North Carolina DENR	State Program	4	269
TestAmerica Savannah	North Carolina DHHS	State Program	4	13701
TestAmerica Savannah	Oklahoma	State Program	6	9984
TestAmerica Savannah	Pennsylvania	NELAC	3	68-00474
TestAmerica Savannah	Puerto Rico	State Program	2	GA00006
TestAmerica Savannah	Rhode Island	State Program	1	LAO00244
TestAmerica Savannah	South Carolina	State Program	4	98001
TestAmerica Savannah	Tennessee	State Program	4	TN02961
TestAmerica Savannah	Texas	NELAC	6	T104704185-08-TX
TestAmerica Savannah	USDA	Federal		SAV 3-04
TestAmerica Savannah	Vermont	State Program	1	87052
TestAmerica Savannah	Washington	State Program	10	C1794
TestAmerica Savannah	West Virginia	State Program	3	9950C
TestAmerica Savannah	West Virginia DEP	State Program	3	94
TestAmerica Savannah	Wisconsin	State Program	5	999819810
TestAmerica Savannah	Wyoming	State Program	8	8TMS-Q

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Appendix F

Pump Test Response Results

Granville Solvents Pump Test Results



Appendix G

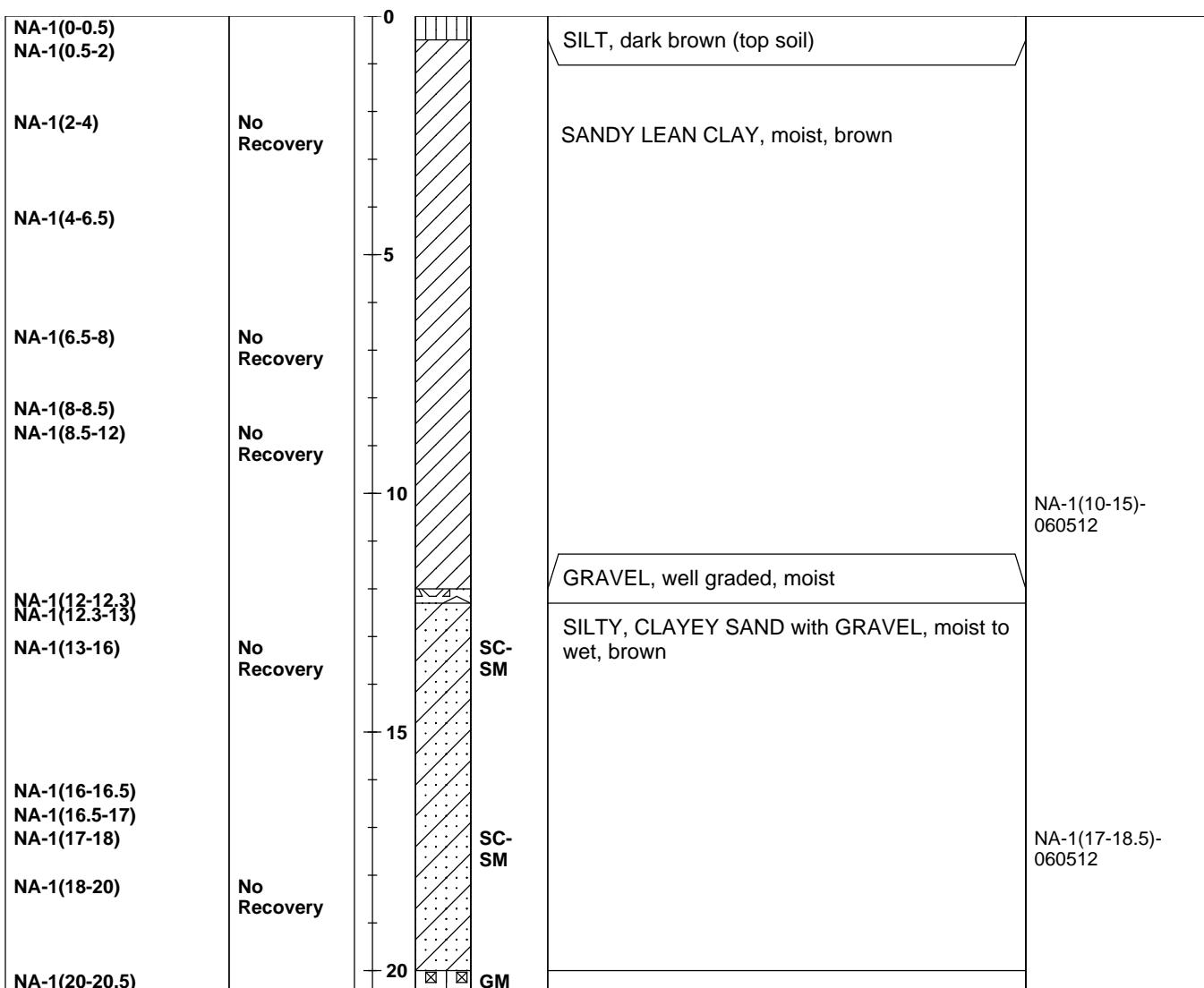
Boring Log NA-1

Boring Log

Boring #: NA-1

Sheet 1 of 2

Project: Granville Solvents Site	Contractor: EnviroCore	Location: Granville, Ohio			
Project #: 60218707.3	Operator: NA	Northing: Easting:			
Client: GSS RMP, LLC	Drill Rig Type: GeoProbe 7822	Surface Elevation (ft AMSL):			
Start Date: 06/05/12	Method: Direct Push	Total Depth (ft): 40			
Finish Date: 06/05/12	Sample Diameter: NA	Logged By: M. Papp			
Sample	Depth (ft)				
Depth interval	Recovery	Lithology	USCS Symbol	Soil and Rock Description	Geotechnical Samples



Remarks: Boring terminated 40 feet below ground surface.

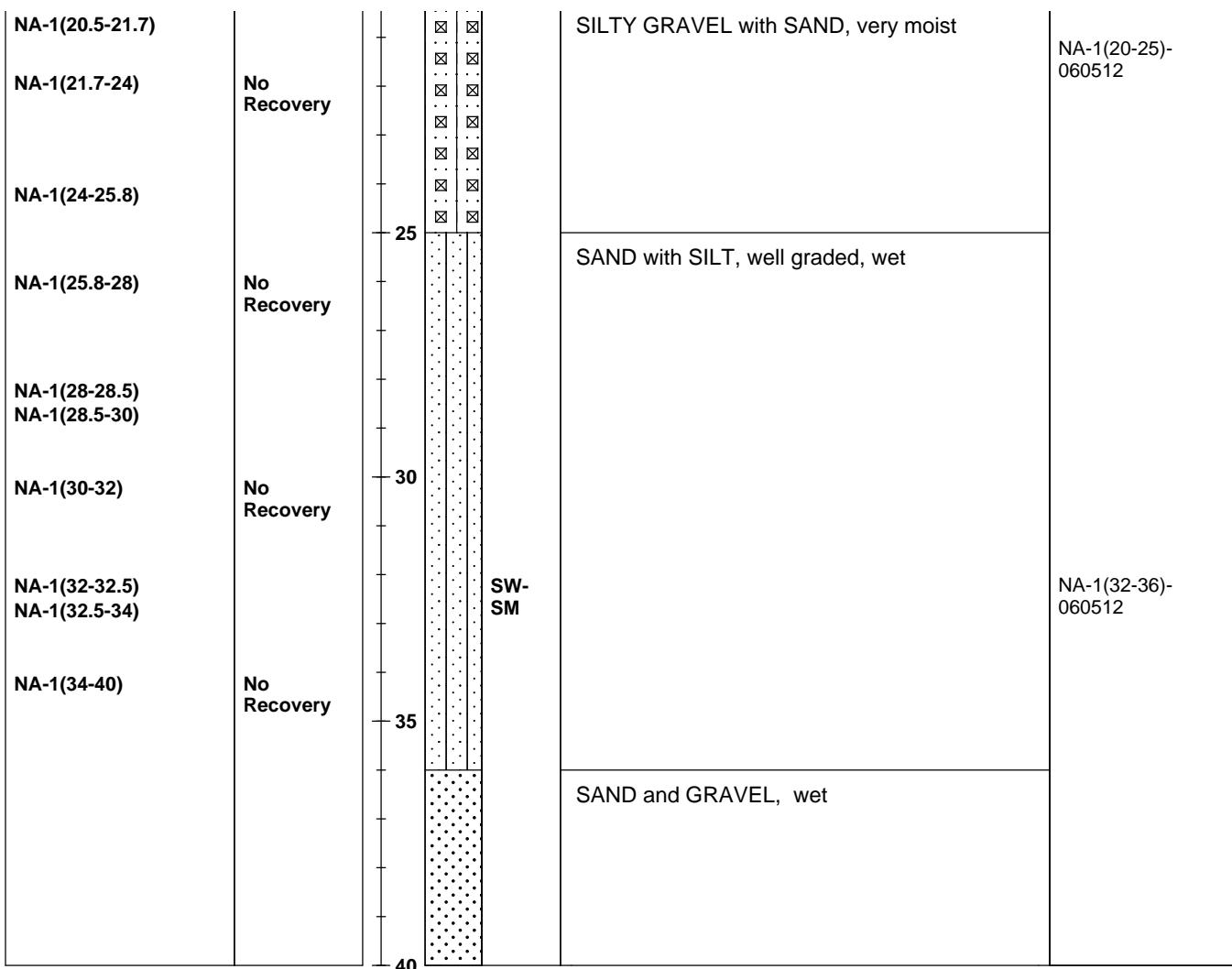
AECOM
4219 Malsbury Road
Cincinnati, OH 45242

Boring Log

Boring #: NA-1

Sheet 2 of 2

Project: Granville Solvents Site	Contractor: EnviroCore	Location: Granville, Ohio				
Project #: 60218707.3	Operator: NA	Northing: Easting:				
Client: GSS RMP, LLC	Drill Rig Type: GeoProbe 7822	Surface Elevation (ft AMSL):				
Start Date: 06/05/12	Method: Direct Push	Total Depth (ft): 40				
Finish Date: 06/05/12	Sample Diameter: NA	Logged By: M. Papp				
Sample		Depth (ft)	Lithology	USCS Symbol	Soil and Rock Description	Geotechnical Samples
Depth interval	Recovery					



Remarks: Boring terminated 40 feet below ground surface.

AECOM
4219 Malsbury Road
Cincinnati, OH 45242

Appendix H

Soil Analytical/Geotechnical Report

ANALYTICAL REPORT

Job Number: 680-80212-1

Job Description: Granville - Soil & Geotech - JUNE 2012

For:

AECOM, Inc.
4219 Malsbary Drive
Cincinnati, OH 45242

Attention: Michael Papp



Approved for release.
Lidya Gulizia
Project Manager I
6/25/2012 8:03 PM

Lidya Gulizia
Project Manager I
lidya.gulizia@testamericainc.com
06/25/2012

The test results in this report meet NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted. Results pertain only to samples listed in this report. This report may not be reproduced, except in full, without the written approval of the laboratory. Questions should be directed to the person who signed this report.

Savannah Certifications and ID #'s: A2LA: 0399.01; AL: 41450; ARDEQ: 88-0692; ARDOH; CA: 03217CA; CO: CT: PH0161; DE: FL: E87052; GA: 803; Guam; HI: IL: 200022; IN: IA: 353; KS: E-10322; KY EPPC: 90084; KY UST; LA DEQ: 30690; LA DHH: LA080008; ME: 2008022; MD: 250; MA: M-GA006; MI: 9925; MS: NFESC: 249; NV: GA00006; NJ: GA769; NM: NY: 10842; NC DWQ: 269; NC DHHS: 13701; PA: 68-00474; PR: GA00006; RI: LAO00244; SC: 98001001; TN: TN0296; TX: T104704185; USEPA: GA00006; VT: VT-87052; VA: 00302; WA; WV DEP: 094; WV DHHR: 9950 C; WI DNR: 999819810; WY/EPAR8: 8TMS-Q

CASE NARRATIVE

Client: AECOM, Inc.

Project: Granville - Soil & Geotech - JUNE 2012

Report Number: 680-80212-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 06/09/2012; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 5.0 C.

TOTAL METALS (ICP)

Samples NA1(17-18.5')-060512 (680-80212-11), NA1(20-25')-060512 (680-80212-12), NA1(32-36')-060512 (680-80212-13) and NA1(10-15')-060512 (680-80212-14) were analyzed for total metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared on 06/11/2012 and analyzed on 06/12/2012.

No difficulties were encountered during the metals analyses.

All quality control parameters were within the acceptance limits.

PERCENT SOLIDS/MOISTURE

Samples NA1(17-18.5')-060512 (680-80212-11), NA1(20-25')-060512 (680-80212-12), NA1(32-36')-060512 (680-80212-13) and NA1(10-15')-060512 (680-80212-14) were analyzed for Percent Solids/Moisture in accordance with TestAmerica SOP. The samples were analyzed on 06/11/2012.

No difficulties were encountered during the % solids/moisture analyses.

All quality control parameters were within the acceptance limits.

TOTAL ORGANIC CARBON

Samples NA1(17-18.5')-060512 (680-80212-11), NA1(20-25')-060512 (680-80212-12), NA1(32-36')-060512 (680-80212-13) and NA1(10-15')-060512 (680-80212-14) were analyzed for Total Organic Carbon in accordance with Walkley Black (TOC). The samples were analyzed on 06/19/2012.

No difficulties were encountered during the TOC analyses.

All quality control parameters were within the acceptance limits.

CLASSIFICATION OF SOILS FINER THAN #200 SIEVE

Samples NA1(17-18.5')-060512 (680-80212-11), NA1(20-25')-060512 (680-80212-12), NA1(32-36')-060512 (680-80212-13) and NA1(10-15')-060512 (680-80212-14) were analyzed for Classification of Soils Finer than #200 Sieve in accordance with ASTM D2487. The samples were analyzed on 06/20/2012.

No difficulties were encountered during the D2487 analyses.

All quality control parameters were within the acceptance limits.

METHOD SUMMARY

Client: AECOM, Inc.

Job Number: 680-80212-1

Description		Lab Location	Method	Preparation Method
Matrix	Solid			
Metals (ICP)		TAL SAV	SW846 6010B	
Preparation, Metals		TAL SAV		SW846 3050B
Percent Moisture		TAL SAV	EPA Moisture	
Classification of Soils for Engineering Purposes		TAL BUR	ASTM D2487	
Grain Size		TAL BUR	ASTM D422	
Liquid Limit, Plastic Limit and Plasticity Index of Soils		TAL BUR	ASTM D4318	
Organic Carbon, Total (TOC)		TAL PEN	MSA WALKLEY BLACK	

Lab References:

TAL BUR = TestAmerica Burlington

TAL PEN = TestAmerica Pensacola

TAL SAV = TestAmerica Savannah

Method References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

MSA = "Methods Of Soil Analysis, Chemical And Microbiological Properties", Part 2, 2nd Ed., 1982 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: AECOM, Inc.

Job Number: 680-80212-1

Method	Analyst	Analyst ID
SW846 6010B	Bland, Brian	BCB
EPA Moisture	Swafford, Frances	FS
MSA WALKLEY BLACK	Rigby, Amy	AR
ASTM D2487	Peterson, Mark A	MAP
ASTM D422	Peterson, Mark A	MAP
ASTM D4318	Peterson, Mark A	MAP

SAMPLE SUMMARY

Client: AECOM, Inc.

Job Number: 680-80212-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-80212-11	NA1(17-18.5')-060512	Solid	06/05/2012 1154	06/09/2012 0939
680-80212-12	NA1(20-25')-060512	Solid	06/05/2012 1200	06/09/2012 0939
680-80212-13	NA1(32-36')-060512	Solid	06/05/2012 1215	06/09/2012 0939
680-80212-14	NA1(10-15')-060512	Solid	06/05/2012 1149	06/09/2012 0939

SAMPLE RESULTS

Analytical Data

Client: AECOM, Inc.

Job Number: 680-80212-1

Client Sample ID: NA1(17-18.5')-060512

Lab Sample ID: 680-80212-11 Date Sampled: 06/05/2012 1154
Client Matrix: Solid % Moisture: 10.1 Date Received: 06/09/2012 0939

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	680-240261	Instrument ID:	ICPD
Prep Method:	3050B	Prep Batch:	680-239973	Lab File ID:	D061212
Dilution:	1.0			Initial Weight/Volume:	1.05 g
Analysis Date:	06/12/2012 1949			Final Weight/Volume:	100 mL
Prep Date:	06/11/2012 1117				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Iron		23000		21
Manganese		420		1.1

Analytical Data

Client: AECOM, Inc.

Job Number: 680-80212-1

Client Sample ID: NA1(20-25')-060512

Lab Sample ID: 680-80212-12 Date Sampled: 06/05/2012 1200
Client Matrix: Solid % Moisture: 11.2 Date Received: 06/09/2012 0939

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	680-240261	Instrument ID:	ICPD
Prep Method:	3050B	Prep Batch:	680-239973	Lab File ID:	D061212
Dilution:	1.0			Initial Weight/Volume:	1.12 g
Analysis Date:	06/12/2012 1954			Final Weight/Volume:	100 mL
Prep Date:	06/11/2012 1117				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Iron		17000		20
Manganese		310		1.0

Analytical Data

Client: AECOM, Inc.

Job Number: 680-80212-1

Client Sample ID: NA1(32-36')-060512

Lab Sample ID: 680-80212-13

Date Sampled: 06/05/2012 1215

Client Matrix: Solid

% Moisture: 19.5

Date Received: 06/09/2012 0939

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	680-240261	Instrument ID:	ICPD
Prep Method:	3050B	Prep Batch:	680-239973	Lab File ID:	D061212
Dilution:	1.0			Initial Weight/Volume:	1.14 g
Analysis Date:	06/12/2012 1959			Final Weight/Volume:	100 mL
Prep Date:	06/11/2012 1117				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Iron		14000		22
Manganese		260		1.1

Analytical Data

Client: AECOM, Inc.

Job Number: 680-80212-1

Client Sample ID: NA1(10-15')-060512

Lab Sample ID: 680-80212-14 Date Sampled: 06/05/2012 1149
Client Matrix: Solid % Moisture: 10.8 Date Received: 06/09/2012 0939

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	680-240261	Instrument ID:	ICPD
Prep Method:	3050B	Prep Batch:	680-239973	Lab File ID:	D061212
Dilution:	1.0			Initial Weight/Volume:	1.02 g
Analysis Date:	06/12/2012 2004			Final Weight/Volume:	100 mL
Prep Date:	06/11/2012 1117				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Iron		23000		22
Manganese		410		1.1

Analytical Data

Client: AECOM, Inc.

Job Number: 680-80212-1

General Chemistry**Client Sample ID:** NA1(17-18.5')-060512

Lab Sample ID: 680-80212-11 Date Sampled: 06/05/2012 1154

Client Matrix: Solid Date Received: 06/09/2012 0939

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Moisture	10		%	0.010	1.0	Moisture
	Analysis Batch: 680-239934		Analysis Date: 06/11/2012 1115			DryWt Corrected: N
Total Organic Carbon	1.1		Percent	0.11	1.0	WALKLEY BLACK
	Analysis Batch: 400-156969		Analysis Date: 06/19/2012 1145			DryWt Corrected: Y

Analytical Data

Client: AECOM, Inc.

Job Number: 680-80212-1

General Chemistry**Client Sample ID:** NA1(20-25')-060512

Lab Sample ID: 680-80212-12 Date Sampled: 06/05/2012 1200

Client Matrix: Solid Date Received: 06/09/2012 0939

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Moisture	11		%	0.010	1.0	Moisture
	Analysis Batch: 680-239934		Analysis Date: 06/11/2012 1115			DryWt Corrected: N
Total Organic Carbon	0.56		Percent	0.11	1.0	WALKLEY BLACK
	Analysis Batch: 400-156969		Analysis Date: 06/19/2012 1145			DryWt Corrected: Y

Analytical Data

Client: AECOM, Inc.

Job Number: 680-80212-1

General Chemistry**Client Sample ID:** NA1(32-36')-060512**Lab Sample ID:** 680-80212-13 **Date Sampled:** 06/05/2012 1215
Client Matrix: Solid **Date Received:** 06/09/2012 0939

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Moisture	19		%	0.010	1.0	Moisture
	Analysis Batch: 680-239934		Analysis Date: 06/11/2012 1115			DryWt Corrected: N
Total Organic Carbon	0.23		Percent	0.12	1.0	WALKLEY BLACK
	Analysis Batch: 400-156969		Analysis Date: 06/19/2012 1145			DryWt Corrected: Y

Analytical Data

Client: AECOM, Inc.

Job Number: 680-80212-1

General Chemistry**Client Sample ID:** NA1(10-15')-060512

Lab Sample ID: 680-80212-14 Date Sampled: 06/05/2012 1149

Client Matrix: Solid Date Received: 06/09/2012 0939

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Moisture	11		%	0.010	1.0	Moisture
	Analysis Batch: 680-239934		Analysis Date: 06/11/2012 1115			DryWt Corrected: N
Total Organic Carbon	0.40		Percent	0.11	1.0	WALKLEY BLACK
	Analysis Batch: 400-156969		Analysis Date: 06/19/2012 1145			DryWt Corrected: Y

Analytical Data

Client: AECOM, Inc.

Job Number: 680-80212-1

Client Sample ID: NA1(17-18.5')-060512

Lab Sample ID: 680-80212-11

Date Sampled: 06/05/2012 1154

Client Matrix: Solid

Date Received: 06/09/2012 0939

D2487 Classification of Soils for Engineering Purposes

Analysis Method:	D2487	Analysis Batch:	200-40658	Instrument ID:	NOEQUIP
	N/A	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	
Analysis Date:	06/20/2012 1717			Final Weight/Volume:	
Prep Date:	N/A				

Analyte	DryWt Corrected: N	Result (NONE)	Qualifier	RL
Group Name		SI-CL-SAND-W-GR		
Group Symbol		SC-SM		

Analytical Data

Client: AECOM, Inc.

Job Number: 680-80212-1

Client Sample ID: NA1(20-25')-060512Lab Sample ID: 680-80212-12
Client Matrix: SolidDate Sampled: 06/05/2012 1200
Date Received: 06/09/2012 0939**D2487 Classification of Soils for Engineering Purposes**

Analysis Method:	D2487	Analysis Batch:	200-40658	Instrument ID:	NOEQUIP
	N/A	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	
Analysis Date:	06/20/2012 1717			Final Weight/Volume:	
Prep Date:	N/A				

Analyte	DryWt Corrected: N	Result (NONE)	Qualifier	RL
Group Name		WG-SAND-W-SILT-		
Group Symbol		GM		

Analytical Data

Client: AECOM, Inc.

Job Number: 680-80212-1

Client Sample ID: NA1(32-36')-060512Lab Sample ID: 680-80212-13
Client Matrix: SolidDate Sampled: 06/05/2012 1215
Date Received: 06/09/2012 0939**D2487 Classification of Soils for Engineering Purposes**

Analysis Method:	D2487	Analysis Batch:	200-40658	Instrument ID:	NOEQUIP
	N/A	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	
Analysis Date:	06/20/2012 1717			Final Weight/Volume:	
Prep Date:	N/A				

Analyte	DryWt Corrected: N	Result (NONE)	Qualifier	RL
Group Name		WG-SAND-W-SILT-		
Group Symbol		SW-SM		

Analytical Data

Client: AECOM, Inc.

Job Number: 680-80212-1

Client Sample ID: NA1(10-15')-060512Lab Sample ID: 680-80212-14
Client Matrix: SolidDate Sampled: 06/05/2012 1149
Date Received: 06/09/2012 0939**D2487 Classification of Soils for Engineering Purposes**

Analysis Method:	D2487	Analysis Batch:	200-40658	Instrument ID:	NOEQUIP
	N/A	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	
Analysis Date:	06/20/2012 1717			Final Weight/Volume:	
Prep Date:	N/A				

Analyte	DryWt Corrected: N	Result (NONE)	Qualifier	RL
Group Name		SI-CL-SAND-W-GR		
Group Symbol		SC-SM		

Analytical Data

Client: AECOM, Inc.

Job Number: 680-80212-1

Client Sample ID: NA1(17-18.5')-060512

Lab Sample ID: 680-80212-11

Date Sampled: 06/05/2012 1154

Client Matrix: Solid

Date Received: 06/09/2012 0939

D422 Grain Size

Analysis Method:	D422	Analysis Batch:	200-40528	Instrument ID:	D422_import
	N/A	Prep Batch:	N/A	Lab File ID:	680-80212-D-11.txt
Dilution:	1.0			Initial Weight/Volume:	107.04 g
Analysis Date:	06/13/2012 2214			Final Weight/Volume:	
Prep Date:	N/A				

Analyte	DryWt Corrected: N	Result (%)	Qualifier	RL
Gravel		26.9		
Sand		28.7		
Coarse Sand		6.9		
Medium Sand		8.7		
Fine Sand		13.1		
Silt		23.9		
Clay		20.5		

Analytical Data

Client: AECOM, Inc.

Job Number: 680-80212-1

Client Sample ID: NA1(17-18.5')-060512

Lab Sample ID: 680-80212-11

Date Sampled: 06/05/2012 1154

Client Matrix: Solid

Date Received: 06/09/2012 0939

D422 Grain Size

Analysis Method:	D422	Analysis Batch:	200-40528	Instrument ID:	D422_import
	N/A	Prep Batch:	N/A	Lab File ID:	680-80212-D-11.txt
Dilution:	1.0			Initial Weight/Volume:	107.04 g
Analysis Date:	06/13/2012 2214			Final Weight/Volume:	
Prep Date:	N/A				

Analyte	DryWt Corrected: N	Result (%)	Qualifier	RL
Sieve Size 3 inch		0.0		
Sieve Size 2 inch		0.0		
Sieve Size 1.5 inch		0.0		
Sieve Size 1 inch		0.0		
Sieve Size 0.75 inch		12.2		
Sieve Size 0.375 inch		5.2		
Sieve Size #4		9.5		
Sieve Size #10		6.9		
Sieve Size #20		4.8		
Sieve Size #40		3.9		
Sieve Size #60		3.2		
Sieve Size #80		2.2		
Sieve Size #100		1.6		
Sieve Size #200		6.1		
Hydrometer Reading 1		7.6		
Hydrometer Reading 2		5.1		
Hydrometer Reading 3		5.2		
Hydrometer Reading 4		3.5		
Hydrometer Reading 5		2.5		
Hydrometer Reading 6		6.0		
Hydrometer Reading 7		5.0		

Analyte	DryWt Corrected: N	Result (um)	Qualifier	RL
Hydrometer Reading 1 - Particle Size		29.8		
Hydrometer Reading 2 - Particle Size		19.6		
Hydrometer Reading 3 - Particle Size		11.8		
Hydrometer Reading 4 - Particle Size		8.6		
Hydrometer Reading 5 - Particle Size		6.3		
Hydrometer Reading 6 - Particle Size		3.1		
Hydrometer Reading 7 - Particle Size		1.4		

Analytical Data

Client: AECOM, Inc.

Job Number: 680-80212-1

Client Sample ID: NA1(20-25')-060512Lab Sample ID: 680-80212-12
Client Matrix: SolidDate Sampled: 06/05/2012 1200
Date Received: 06/09/2012 0939**D422 Grain Size**

Analysis Method:	D422	Analysis Batch:	200-40528	Instrument ID:	D422_import
	N/A	Prep Batch:	N/A	Lab File ID:	680-80212-A-12.txt
Dilution:	1.0			Initial Weight/Volume:	217.83 g
Analysis Date:	06/13/2012 2219			Final Weight/Volume:	
Prep Date:	N/A				

Analyte	DryWt Corrected: N	Result (%)	Qualifier	RL
Gravel		55.1		
Sand		28.7		
Coarse Sand		13.6		
Medium Sand		10.1		
Fine Sand		5.0		
Silt		11.7		
Clay		4.6		

Analytical Data

Client: AECOM, Inc.

Job Number: 680-80212-1

Client Sample ID: NA1(20-25')-060512

Lab Sample ID: 680-80212-12

Date Sampled: 06/05/2012 1200

Client Matrix: Solid

Date Received: 06/09/2012 0939

D422 Grain Size

Analysis Method:	D422	Analysis Batch:	200-40528	Instrument ID:	D422_import
	N/A	Prep Batch:	N/A	Lab File ID:	680-80212-A-12.txt
Dilution:	1.0			Initial Weight/Volume:	217.83 g
Analysis Date:	06/13/2012 2219			Final Weight/Volume:	
Prep Date:	N/A				

Analyte	DryWt Corrected: N	Result (%)	Qualifier	RL
Sieve Size 3 inch		0.0		
Sieve Size 2 inch		0.0		
Sieve Size 1.5 inch		0.0		
Sieve Size 1 inch		0.0		
Sieve Size 0.75 inch		27.9		
Sieve Size 0.375 inch		15.3		
Sieve Size #4		11.9		
Sieve Size #10		13.6		
Sieve Size #20		6.6		
Sieve Size #40		3.5		
Sieve Size #60		1.7		
Sieve Size #80		0.8		
Sieve Size #100		0.4		
Sieve Size #200		2.1		
Hydrometer Reading 1		6.3		
Hydrometer Reading 2		2.1		
Hydrometer Reading 3		2.1		
Hydrometer Reading 4		0.4		
Hydrometer Reading 5		0.8		
Hydrometer Reading 6		1.6		
Hydrometer Reading 7		0.8		

Analyte	DryWt Corrected: N	Result (um)	Qualifier	RL
Hydrometer Reading 1 - Particle Size		33.7		
Hydrometer Reading 2 - Particle Size		21.9		
Hydrometer Reading 3 - Particle Size		13.0		
Hydrometer Reading 4 - Particle Size		9.2		
Hydrometer Reading 5 - Particle Size		6.4		
Hydrometer Reading 6 - Particle Size		3.3		
Hydrometer Reading 7 - Particle Size		1.4		

Analytical Data

Client: AECOM, Inc.

Job Number: 680-80212-1

Client Sample ID: NA1(32-36')-060512

Lab Sample ID: 680-80212-13

Date Sampled: 06/05/2012 1215

Client Matrix: Solid

Date Received: 06/09/2012 0939

D422 Grain Size

Analysis Method:	D422 N/A	Analysis Batch:	200-40528 Prep Batch: N/A	Instrument ID:	D422_import
Dilution:	1.0			Lab File ID:	680-80212-A-13.txt
Analysis Date:	06/13/2012 2224			Initial Weight/Volume:	273.99 g
Prep Date:	N/A			Final Weight/Volume:	
Analyte	DryWt Corrected: N	Result (%)	Qualifier	RL	
Gravel		28.3			
Sand		62.1			
Coarse Sand		23.4			
Medium Sand		28.3			
Fine Sand		10.4			
Silt		7.6			
Clay		2.0			

Analytical Data

Client: AECOM, Inc.

Job Number: 680-80212-1

Client Sample ID: NA1(32-36')-060512

Lab Sample ID: 680-80212-13

Date Sampled: 06/05/2012 1215

Client Matrix: Solid

Date Received: 06/09/2012 0939

D422 Grain Size

Analysis Method:	D422	Analysis Batch:	200-40528	Instrument ID:	D422_import
	N/A	Prep Batch:	N/A	Lab File ID:	680-80212-A-13.txt
Dilution:	1.0			Initial Weight/Volume:	273.99 g
Analysis Date:	06/13/2012 2224			Final Weight/Volume:	
Prep Date:	N/A				

Analyte	DryWt Corrected: N	Result (%)	Qualifier	RL
Sieve Size 3 inch		0.0		
Sieve Size 2 inch		0.0		
Sieve Size 1.5 inch		0.0		
Sieve Size 1 inch		0.0		
Sieve Size 0.75 inch		0.0		
Sieve Size 0.375 inch		12.2		
Sieve Size #4		16.1		
Sieve Size #10		23.4		
Sieve Size #20		17.2		
Sieve Size #40		11.1		
Sieve Size #60		6.0		
Sieve Size #80		1.7		
Sieve Size #100		0.8		
Sieve Size #200		1.9		
Hydrometer Reading 1		5.8		
Hydrometer Reading 2		0.3		
Hydrometer Reading 3		1.0		
Hydrometer Reading 4		0.0		
Hydrometer Reading 5		0.4		
Hydrometer Reading 6		0.3		
Hydrometer Reading 7		0.6		

Analyte	DryWt Corrected: N	Result (um)	Qualifier	RL
Hydrometer Reading 1 - Particle Size		35.8		
Hydrometer Reading 2 - Particle Size		22.7		
Hydrometer Reading 3 - Particle Size		13.3		
Hydrometer Reading 4 - Particle Size		9.3		
Hydrometer Reading 5 - Particle Size		6.9		
Hydrometer Reading 6 - Particle Size		3.4		
Hydrometer Reading 7 - Particle Size		1.4		

Analytical Data

Client: AECOM, Inc.

Job Number: 680-80212-1

Client Sample ID: NA1(10-15')-060512

Lab Sample ID: 680-80212-14

Date Sampled: 06/05/2012 1149

Client Matrix: Solid

Date Received: 06/09/2012 0939

D422 Grain Size

Analysis Method:	D422 N/A	Analysis Batch:	200-40528 Prep Batch: N/A	Instrument ID:	D422_import Lab File ID: 680-80212-A-14.txt
Dilution:	1.0			Initial Weight/Volume:	117.86 g
Analysis Date:	06/13/2012 2229			Final Weight/Volume:	
Prep Date:	N/A				
Analyte	DryWt Corrected: N	Result (%)	Qualifier	RL	
Gravel		24.6			
Sand		34.0			
Coarse Sand		10.5			
Medium Sand		12.2			
Fine Sand		11.3			
Silt		26.8			
Clay		14.6			

Analytical Data

Client: AECOM, Inc.

Job Number: 680-80212-1

Client Sample ID: NA1(10-15')-060512

Lab Sample ID: 680-80212-14

Date Sampled: 06/05/2012 1149

Client Matrix: Solid

Date Received: 06/09/2012 0939

D422 Grain Size

Analysis Method:	D422	Analysis Batch:	200-40528	Instrument ID:	D422_import
	N/A	Prep Batch:	N/A	Lab File ID:	680-80212-A-14.txt
Dilution:	1.0			Initial Weight/Volume:	117.86 g
Analysis Date:	06/13/2012 2229			Final Weight/Volume:	
Prep Date:	N/A				

Analyte	DryWt Corrected: N	Result (%)	Qualifier	RL
Sieve Size 3 inch		0.0		
Sieve Size 2 inch		0.0		
Sieve Size 1.5 inch		0.0		
Sieve Size 1 inch		0.0		
Sieve Size 0.75 inch		0.0		
Sieve Size 0.375 inch		18.7		
Sieve Size #4		5.9		
Sieve Size #10		10.5		
Sieve Size #20		6.7		
Sieve Size #40		5.5		
Sieve Size #60		3.6		
Sieve Size #80		1.8		
Sieve Size #100		1.1		
Sieve Size #200		4.8		
Hydrometer Reading 1		15.0		
Hydrometer Reading 2		4.0		
Hydrometer Reading 3		3.9		
Hydrometer Reading 4		1.6		
Hydrometer Reading 5		2.3		
Hydrometer Reading 6		4.0		
Hydrometer Reading 7		2.3		

Analyte	DryWt Corrected: N	Result (um)	Qualifier	RL
Hydrometer Reading 1 - Particle Size		32.0		
Hydrometer Reading 2 - Particle Size		20.8		
Hydrometer Reading 3 - Particle Size		12.4		
Hydrometer Reading 4 - Particle Size		8.8		
Hydrometer Reading 5 - Particle Size		6.4		
Hydrometer Reading 6 - Particle Size		3.2		
Hydrometer Reading 7 - Particle Size		1.3		

Analytical Data

Client: AECOM, Inc.

Job Number: 680-80212-1

Client Sample ID: NA1(17-18.5')-060512

Lab Sample ID: 680-80212-11

Date Sampled: 06/05/2012 1154

Client Matrix: Solid

Date Received: 06/09/2012 0939

D4318 Liquid Limit, Plastic Limit and Plasticity Index of Soils

Analysis Method:	D4318	Analysis Batch:	200-40355	Instrument ID:	NOEQUIP
	N/A	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	
Analysis Date:	06/14/2012 1519			Final Weight/Volume:	
Prep Date:	N/A				

Analyte	DryWt Corrected: N	Result (NONE)	Qualifier	RL
Liquid Limit		21		
Plastic Limit		15		
Plasticity Index		6		

Analytical Data

Client: AECOM, Inc.

Job Number: 680-80212-1

Client Sample ID: **NA1(20-25')-060512**

Lab Sample ID: 680-80212-12

Date Sampled: 06/05/2012 1200

Client Matrix: Solid

Date Received: 06/09/2012 0939

D4318 Liquid Limit, Plastic Limit and Plasticity Index of Soils

Analysis Method:	D4318	Analysis Batch:	200-40355	Instrument ID:	NOEQUIP
	N/A	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	
Analysis Date:	06/14/2012 1519			Final Weight/Volume:	
Prep Date:	N/A				

Analyte	DryWt Corrected: N	Result (NONE)	Qualifier	RL
Liquid Limit		0		
Plastic Limit		0		
Plasticity Index		NP		

Analytical Data

Client: AECOM, Inc.

Job Number: 680-80212-1

Client Sample ID: NA1(32-36')-060512

Lab Sample ID: 680-80212-13

Date Sampled: 06/05/2012 1215

Client Matrix: Solid

Date Received: 06/09/2012 0939

D4318 Liquid Limit, Plastic Limit and Plasticity Index of Soils

Analysis Method:	D4318	Analysis Batch:	200-40355	Instrument ID:	NOEQUIP
	N/A	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	
Analysis Date:	06/14/2012 1519			Final Weight/Volume:	
Prep Date:	N/A				

Analyte	DryWt Corrected: N	Result (NONE)	Qualifier	RL
Liquid Limit		0		
Plastic Limit		0		
Plasticity Index		NP		

Analytical Data

Client: AECOM, Inc.

Job Number: 680-80212-1

Client Sample ID: NA1(10-15')-060512

Lab Sample ID: 680-80212-14

Date Sampled: 06/05/2012 1149

Client Matrix: Solid

Date Received: 06/09/2012 0939

D4318 Liquid Limit, Plastic Limit and Plasticity Index of Soils

Analysis Method:	D4318	Analysis Batch:	200-40355	Instrument ID:	NOEQUIP
	N/A	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	
Analysis Date:	06/14/2012 1519			Final Weight/Volume:	
Prep Date:	N/A				

Analyte	DryWt Corrected: N	Result (NONE)	Qualifier	RL
Liquid Limit		22		
Plastic Limit		17		
Plasticity Index		5		

Particle Size of Soils by ASTM D422

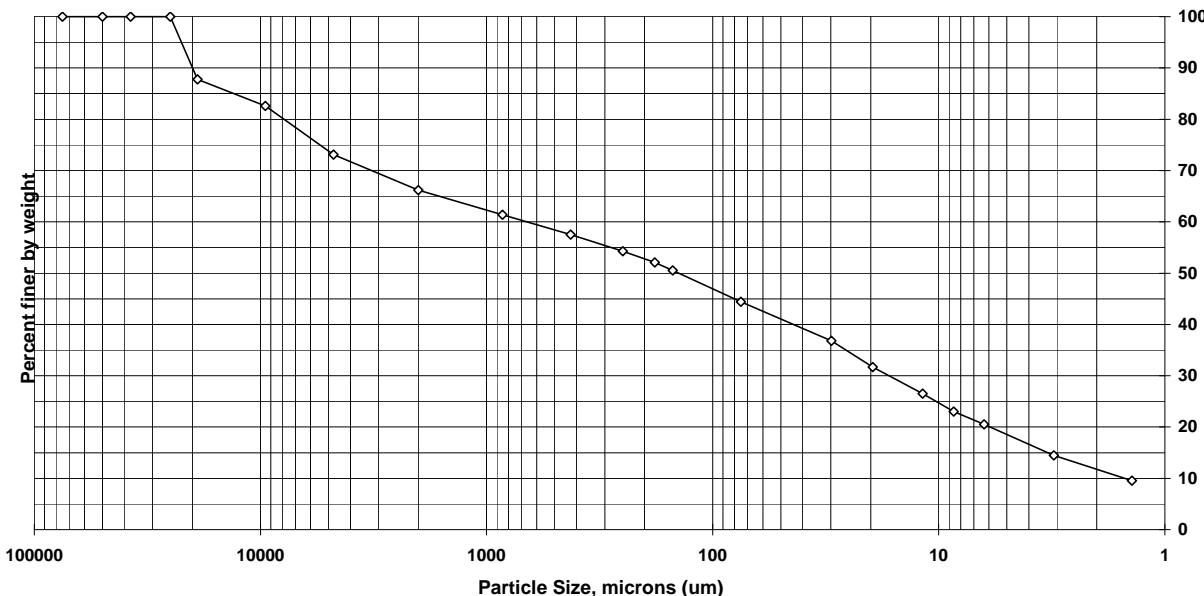
Sample ID: NA1(17-18.5')-060512
Lab ID: 680-80212-D-11

Percent Solids: 87.9%
Specific Gravity: 2.650

Date Received: 6/9/2012
Start Date: 6/13/2012
End Date: 6/19/2012

Shape (> #10): subangular

Non-soil material: na
Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	87.8	12.2
3/8 inch	9500	82.6	5.2
#4	4750	73.1	9.5
#10	2000	66.2	6.9
#20	850	61.4	4.8
#40	425	57.5	3.9
#60	250	54.3	3.2
#80	180	52.1	2.2
#100	150	50.5	1.6
#200	75	44.4	6.1
Hyd1	29.8	36.8	7.6
Hyd2	19.6	31.7	5.1
Hyd3	11.8	26.5	5.2
Hyd4	8.6	23.0	3.5
Hyd5	6.3	20.5	2.5
Hyd6	3.1	14.5	6.0
Hyd7	1.4	9.5	5.0

Particle Size of Soils by ASTM D422

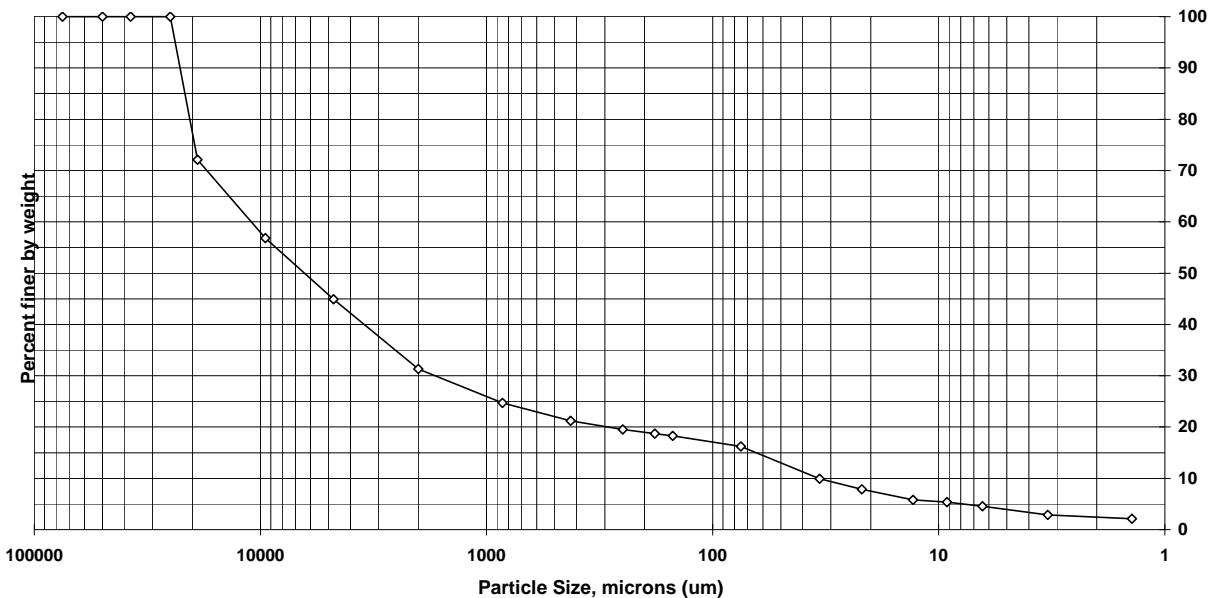
Sample ID: NA1(20-25')-060512
Lab ID: 680-80212-A-12

Percent Solids: 89.0%
Specific Gravity: 2.650

Date Received: 6/9/2012
Start Date: 6/13/2012
End Date: 6/19/2012

Shape (> #10): subangular

Non-soil material: na
Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	72.1	27.9
3/8 inch	9500	56.8	15.3
#4	4750	44.9	11.9
#10	2000	31.3	13.6
#20	850	24.7	6.6
#40	425	21.2	3.5
#60	250	19.5	1.7
#80	180	18.7	0.8
#100	150	18.3	0.4
#200	75	16.2	2.1
Hyd1	33.7	9.9	6.3
Hyd2	21.9	7.9	2.1
Hyd3	13	5.8	2.1
Hyd4	9.2	5.4	0.4
Hyd5	6.4	4.6	0.8
Hyd6	3.3	2.9	1.6
Hyd7	1.4	2.1	0.8

Particle Size of Soils by ASTM D422

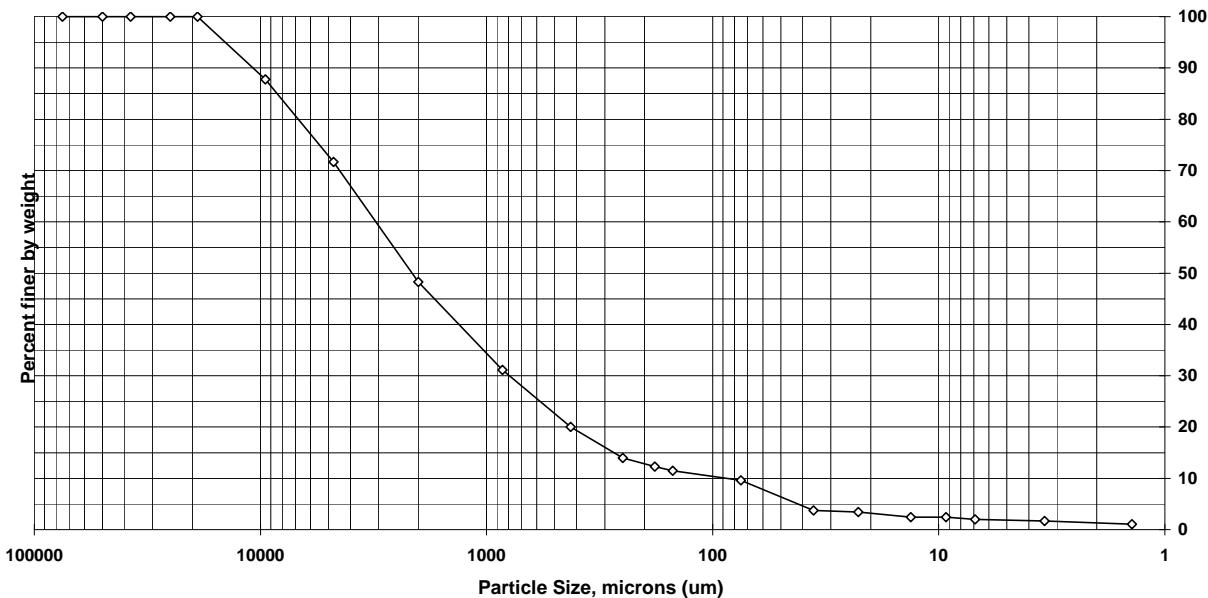
Sample ID: NA1(32-36')-060512
Lab ID: 680-80212-A-13

Percent Solids: 86.7%
Specific Gravity: 2.650

Date Received: 6/9/2012
Start Date: 6/13/2012
End Date: 6/19/2012

Shape (> #10): subrounded

Non-soil material: na
Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	87.8	12.2
#4	4750	71.7	16.1
#10	2000	48.3	23.4
#20	850	31.1	17.2
#40	425	20.0	11.1
#60	250	14.0	6.0
#80	180	12.3	1.7
#100	150	11.5	0.8
#200	75	9.6	1.9
Hyd1	35.8	3.8	5.8
Hyd2	22.7	3.4	0.3
Hyd3	13.3	2.4	1.0
Hyd4	9.3	2.4	0.0
Hyd5	6.9	2.0	0.4
Hyd6	3.4	1.7	0.3
Hyd7	1.4	1.1	0.6

Particle Size of Soils by ASTM D422

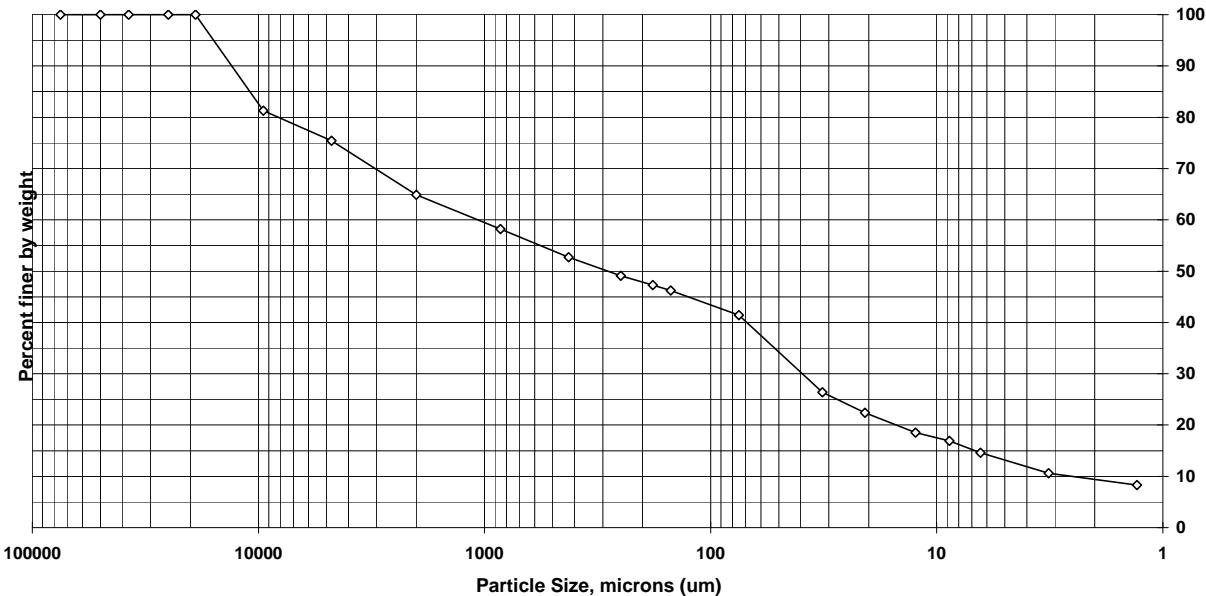
Sample ID: NA1(10-15)-060512
 Lab ID: 680-80212-A-14

Percent Solids: 86.3%
 Specific Gravity: 2.650

Date Received: 6/9/2012
 Start Date: 6/13/2012
 End Date: 6/19/2012

Shape (> #10): subrounded

Non-soil material: na
 Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	81.3	18.7
#4	4750	75.4	5.9
#10	2000	64.9	10.5
#20	850	58.2	6.7
#40	425	52.7	5.5
#60	250	49.1	3.6
#80	180	47.3	1.8
#100	150	46.2	1.1
#200	75	41.4	4.8
Hyd1	32	26.4	15.0
Hyd2	20.8	22.4	4.0
Hyd3	12.4	18.5	3.9
Hyd4	8.8	16.9	1.6
Hyd5	6.4	14.6	2.3
Hyd6	3.2	10.6	4.0
Hyd7	1.3	8.3	2.3

Soil Classification	Percent of sample
Gravel	24.6
Sand	34.0
Coarse Sand	10.5
Medium Sand	12.2
Fine Sand	11.3
Silt	26.8
Clay	14.6

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	NA1(17-18.5')-060512
Lab Sample ID	680-80212-D-11

Date Received	6/9/2012
Start Date	06/13/2012 22:14
End Date	06/19/2012 7:28

Dry Weight Determination

Tin Weight	1.04 g
Wet Sample + Tin	32.66 g
Dry Sample + Tin	28.83 g
% Moisture	12.11 %

Non-soil material:	na
Shape (> #10):	subangular
Hardness (> #10):	hard

Date/Time in oven	06/13/2012 22:16
Date/Time out of oven	06/14/2012 17:46

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)		107.04	107.04
Sample Weight (Oven Dried)			94.1

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >= #10			31.8
Sample < #10			62.3
% Passing #10			58.2

Hydrometer Data

Serial Number	705151
Calib. Date (mm/dd/yyyy)	12/21/2010
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0030
Hydrometer Cal Slope	-0.000166667
Hydrometer Cal Intercept	1.006833333
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample	% Finer	Classification	Sub Class
3 inch	75000			0.00 g		100.0 Gravel	
2 inch	50000			0.00 g		100.0 Gravel	
1.5 inch	37500			0.00 g		100.0 Gravel	
1 inch	25000			0.00 g		100.0 Gravel	
3/4 inch	19000	457.80	469.28	11.48 g		87.8 Gravel	
3/8 inch	9500	447.46	452.39	4.93 g		82.6 Gravel	
#4	4750	488.22	497.12	8.90 g		73.1 Gravel	
#10	2000	462.88	469.38	6.50 g		66.2 Sand	Coarse
#20	850	383.27	387.83	4.56 g		61.4 Sand	Medium
#40	425	353.40	357.09	3.69 g		57.5 Sand	Medium
#60	250	341.38	344.40	3.02 g		54.3 Sand	Fine
#80	180	330.68	332.71	2.03 g		52.1 Sand	Fine
#100	150	325.19	326.73	1.54 g		50.5 Sand	Fine
#200	75	312.15	317.86	5.71 g		44.4 Sand	Fine
				0.00 g		44.4	

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	94.1
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Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)			Classification	Sub Class
				% Finer				
2	2	1.0250	20.5	29.8			36.8 Silt	
5	5	1.0220	20.5	19.6			31.7 Silt	
15	15	1.0190	20.0	11.8			26.5 Silt	
30	30	1.0170	20.0	8.6			23 Silt	
60	57	1.0155	20.0	6.3			20.5 Silt	
250	247	1.0120	20.0	3.1			14.5 Clay	
1440	1394	1.0090	20.5	1.4			9.53 Clay	

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	NA1(20-25')-060512
Lab Sample ID	680-80212-A-12

Date Received	6/9/2012
Start Date	06/13/2012 22:19
End Date	06/19/2012 7:41

Dry Weight Determination

Tin Weight	1.07 g
Wet Sample + Tin	39.45 g
Dry Sample + Tin	35.24 g
% Moisture	10.97 %

Non-soil material:	na
Shape (> #10):	subangular
Hardness (> #10):	hard

Date/Time in oven	06/13/2012 22:21
Date/Time out of oven	06/14/2012 17:46

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)		217.83	217.83
Sample Weight (Oven Dried)			194

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >= #10			133
Sample < #10			61
% Passing #10			28

Hydrometer Data	
Serial Number	705151
Calib. Date (mm/dd/yyyy)	12/21/2010
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0030
Hydrometer Cal Slope	-0.000166667
Hydrometer Cal Intercept	1.006833333
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample	% Finer	Classification	Sub Class
3 inch	75000			0.00 g		100.0 Gravel	
2 inch	50000			0.00 g		100.0 Gravel	
1.5 inch	37500			0.00 g		100.0 Gravel	
1 inch	25000			0.00 g		100.0 Gravel	
3/4 inch	19000	457.80	511.83	54.03 g		72.1 Gravel	
3/8 inch	9500	447.46	477.10	29.64 g		56.8 Gravel	
#4	4750	488.22	511.21	22.99 g		44.9 Gravel	
#10	2000	462.88	489.26	26.38 g		31.3 Sand	Coarse
#20	850	383.27	396.14	12.87 g		24.7 Sand	Medium
#40	425	353.40	360.11	6.71 g		21.2 Sand	Medium
#60	250	341.38	344.63	3.25 g		19.5 Sand	Fine
#80	180	330.68	332.15	1.47 g		18.7 Sand	Fine
#100	150	325.19	326.03	0.84 g		18.3 Sand	Fine
#200	75	312.15	316.15	4.00 g		16.2 Sand	Fine
				0.00 g		16.2	

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	194
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Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)			
				% Finer	Classification	Sub Class	
2	2	1.0155	20.0	33.7	9.93 Silt		
5	5	1.0130	20.0	21.9	7.86 Silt		
15	15	1.0105	20.0	13	5.8 Silt		
30	30	1.0100	20.0	9.2	5.38 Silt		
60	63	1.0090	20.0	6.4	4.55 Silt		
250	241	1.0070	20.0	3.3	2.9 Clay		
1440	1388	1.0060	20.5	1.4	2.14 Clay		

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	NA1(32-36')-060512
Lab Sample ID	680-80212-A-13

Date Received	6/9/2012
Start Date	06/13/2012 22:24
End Date	06/19/2012 7:54

Dry Weight Determination

Tin Weight	1.01 g
Wet Sample + Tin	61.90 g
Dry Sample + Tin	53.82 g
% Moisture	13.27 %

Non-soil material:	na
Shape (> #10):	subrounded
Hardness (> #10):	hard

Date/Time in oven	06/13/2012 22:27
Date/Time out of oven	06/14/2012 17:47

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)		273.99	273.99
Sample Weight (Oven Dried)			238

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			123
Sample <#10			115
% Passing #10			42

Hydrometer Data	
Serial Number	705151
Calib. Date (mm/dd/yyyy)	12/21/2010
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0030
Hydrometer Cal Slope	-0.000166667
Hydrometer Cal Intercept	1.006833333
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample	% Finer	Classification	Sub Class
3 inch	75000			0.00 g		100.0 Gravel	
2 inch	50000			0.00 g		100.0 Gravel	
1.5 inch	37500			0.00 g		100.0 Gravel	
1 inch	25000			0.00 g		100.0 Gravel	
3/4 inch	19000			0.00 g		100.0 Gravel	
3/8 inch	9500	447.46	476.46	29.00 g		87.8 Gravel	
#4	4750	488.22	526.46	38.24 g		71.7 Gravel	
#10	2000	462.88	518.51	55.63 g		48.3 Sand	Coarse
#20	850	383.27	424.25	40.98 g		31.1 Sand	Medium
#40	425	353.40	379.87	26.47 g		20.0 Sand	Medium
#60	250	341.38	355.64	14.26 g		14.0 Sand	Fine
#80	180	330.68	334.75	4.07 g		12.3 Sand	Fine
#100	150	325.19	327.08	1.89 g		11.5 Sand	Fine
#200	75	312.15	316.72	4.57 g		9.6 Sand	Fine
				0.00 g		9.6	

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	238
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Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)			
				% Finer	Classification	Sub Class	
2	2	1.0090	20.5	35.8	3.77 Silt		
5	5	1.0085	20.5	22.7	3.43 Silt		
15	15	1.0070	20.5	13.3	2.42 Silt		
30	31	1.0070	20.5	9.3	2.42 Silt		
60	57	1.0065	20.0	6.9	2.02 Silt		
250	235	1.0060	20.0	3.4	1.69 Clay		
1440	1382	1.0050	20.5	1.4	1.07 Clay		

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	NA1(10-15')-060512
Lab Sample ID	680-80212-A-14

Date Received	6/9/2012
Start Date	06/13/2012 22:29
End Date	06/19/2012 8:20

Dry Weight Determination

Tin Weight	1.01 g
Wet Sample + Tin	35.49 g
Dry Sample + Tin	30.78 g
% Moisture	13.66 %

Non-soil material:	na
Shape (> #10):	subrounded
Hardness (> #10):	hard

Date/Time in oven	06/13/2012 22:30
Date/Time out of oven	06/14/2012 17:47

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)		117.86	117.86
Sample Weight (Oven Dried)			102

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >= #10			35.7
Sample < #10			66.3
% Passing #10			56.3

Hydrometer Data

Serial Number	741402
Calib. Date (mm/dd/yyyy)	12/21/2010
Low Temp (C)	17.0
Reading at Low Temp	1.0035
High Temp (C)	23.0
Reading at High Temp	1.0030
Hydrometer Cal Slope	-8.33333E-05
Hydrometer Cal Intercept	1.004916667
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample	% Finer	Classification	Sub Class
3 inch	75000			0.00 g		100.0 Gravel	
2 inch	50000			0.00 g		100.0 Gravel	
1.5 inch	37500			0.00 g		100.0 Gravel	
1 inch	25000			0.00 g		100.0 Gravel	
3/4 inch	19000			0.00 g		100.0 Gravel	
3/8 inch	9500	447.46	466.51	19.05 g		81.3 Gravel	
#4	4750	488.22	494.19	5.97 g		75.4 Gravel	
#10	2000	462.88	473.55	10.67 g		64.9 Sand	Coarse
#20	850	383.27	390.12	6.85 g		58.2 Sand	Medium
#40	425	353.40	359.03	5.63 g		52.7 Sand	Medium
#60	250	341.38	345.04	3.66 g		49.1 Sand	Fine
#80	180	330.68	332.53	1.85 g		47.3 Sand	Fine
#100	150	325.19	326.36	1.17 g		46.2 Sand	Fine
#200	75	312.15	317.01	4.86 g		41.4 Sand	Fine
				0.00 g		41.4	

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	102
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Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)			Classification	Sub Class
				% Finer				
2	2	1.0200	20.0	32			26.4 Silt	
5	5	1.0175	20.0	20.8			22.4 Silt	
15	15	1.0150	20.0	12.4			18.5 Silt	
30	30	1.0140	20.0	8.8			16.9 Silt	
60	59	1.0125	20.0	6.4			14.6 Silt	
250	256	1.0100	19.5	3.2			10.6 Clay	
1440	1440	1.0085	20.0	1.3			8.27 Clay	

QUALITY CONTROL RESULTS

Quality Control Results

Client: AECOM, Inc.

Job Number: 680-80212-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 680-239973					
LCS 680-239973/2-A	Lab Control Sample	T	Solid	3050B	
MB 680-239973/1-A	Method Blank	T	Solid	3050B	
680-80212-11	NA1(17-18.5')-060512	T	Solid	3050B	
680-80212-12	NA1(20-25')-060512	T	Solid	3050B	
680-80212-13	NA1(32-36')-060512	T	Solid	3050B	
680-80212-14	NA1(10-15')-060512	T	Solid	3050B	
Analysis Batch:680-240261					
LCS 680-239973/2-A	Lab Control Sample	T	Solid	6010B	680-239973
MB 680-239973/1-A	Method Blank	T	Solid	6010B	680-239973
680-80212-11	NA1(17-18.5')-060512	T	Solid	6010B	680-239973
680-80212-12	NA1(20-25')-060512	T	Solid	6010B	680-239973
680-80212-13	NA1(32-36')-060512	T	Solid	6010B	680-239973
680-80212-14	NA1(10-15')-060512	T	Solid	6010B	680-239973

Report Basis

T = Total

General Chemistry

Analysis Batch:400-156969					
LCS 400-156969/2	Lab Control Sample	T	Solid	WALKLEY	
MB 400-156969/1	Method Blank	T	Solid	WALKLEY	
680-80212-11	NA1(17-18.5')-060512	T	Solid	WALKLEY	
680-80212-12	NA1(20-25')-060512	T	Solid	WALKLEY	
680-80212-13	NA1(32-36')-060512	T	Solid	WALKLEY	
680-80212-14	NA1(10-15')-060512	T	Solid	WALKLEY	
Analysis Batch:680-239934					
680-80212-11	NA1(17-18.5')-060512	T	Solid	Moisture	
680-80212-12	NA1(20-25')-060512	T	Solid	Moisture	
680-80212-13	NA1(32-36')-060512	T	Solid	Moisture	
680-80212-14	NA1(10-15')-060512	T	Solid	Moisture	

Report Basis

T = Total

Quality Control Results

Client: AECOM, Inc.

Job Number: 680-80212-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Geotechnical					
Analysis Batch:200-40355					
680-80212-11	NA1(17-18.5')-060512	T	Solid	D4318	
680-80212-12	NA1(20-25')-060512	T	Solid	D4318	
680-80212-13	NA1(32-36')-060512	T	Solid	D4318	
680-80212-14	NA1(10-15')-060512	T	Solid	D4318	
Analysis Batch:200-40528					
680-80212-11	NA1(17-18.5')-060512	T	Solid	D422	
680-80212-12	NA1(20-25')-060512	T	Solid	D422	
680-80212-13	NA1(32-36')-060512	T	Solid	D422	
680-80212-14	NA1(10-15')-060512	T	Solid	D422	
Analysis Batch:200-40658					
680-80212-11	NA1(17-18.5')-060512	T	Solid	D2487	
680-80212-12	NA1(20-25')-060512	T	Solid	D2487	
680-80212-13	NA1(32-36')-060512	T	Solid	D2487	
680-80212-14	NA1(10-15')-060512	T	Solid	D2487	

Report Basis

T = Total

Quality Control Results

Client: AECOM, Inc.

Job Number: 680-80212-1

Method Blank - Batch: 680-239973**Method: 6010B****Preparation: 3050B**

Lab Sample ID:	MB 680-239973/1-A	Analysis Batch:	680-240261	Instrument ID:	ICPD
Client Matrix:	Solid	Prep Batch:	680-239973	Lab File ID:	D061212
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.01 g
Analysis Date:	06/12/2012 1939	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	06/11/2012 1117				
Leach Date:	N/A				

Analyte	Result	Qual	RL
Iron	<20		20
Manganese	<0.99		0.99

Lab Control Sample - Batch: 680-239973**Method: 6010B****Preparation: 3050B**

Lab Sample ID:	LCS 680-239973/2-A	Analysis Batch:	680-240261	Instrument ID:	ICPD
Client Matrix:	Solid	Prep Batch:	680-239973	Lab File ID:	D061212
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.00 g
Analysis Date:	06/12/2012 1944	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	06/11/2012 1117				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Iron	100	112	112	75 - 125	
Manganese	50.0	55.5	111	75 - 125	

Quality Control Results

Client: AECOM, Inc.

Job Number: 680-80212-1

Method Blank - Batch: 400-156969

Method: WALKLEY BLACK
Preparation: N/A

Lab Sample ID:	MB 400-156969/1	Analysis Batch:	400-156969	Instrument ID:	Balance 2
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 g
Analysis Date:	06/18/2012 1645	Units:	Percent	Final Weight/Volume:	1.0 g
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL
Total Organic Carbon	<0.10		0.10

Lab Control Sample - Batch: 400-156969

Method: WALKLEY BLACK
Preparation: N/A

Lab Sample ID:	LCS 400-156969/2	Analysis Batch:	400-156969	Instrument ID:	Balance 2
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 g
Analysis Date:	06/18/2012 1645	Units:	Percent	Final Weight/Volume:	1.0 g
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Organic Carbon	0.260	0.198	76	65 - 126	

TestAmerica

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Website: www.testamericainc.com

Phone: (912) 354-7858

Fax: (912) 352-0165

THE LEADER IN ENVIRONMENTAL TESTING

Granville Solvents Site
 TAL (LAB) PROJECT MANAGER
 Edyga Gelfziga

P.O. NUMBER

PROJECT NO.

 PROJECT LOCATION
 (STATE)

CONTRACT NO.

MATRIX TYPE

REQUIRED ANALYSIS

PAGE 1

OF 2

CLIENT (SITE) PN

CLIENT PHONE

CLIENT FAX

NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

STANDARD REPORT

DELIVERY

DATE DUE

EXPEDITED REPORT

DELIVERY (SURCHARGE)

DATE DUE

NUMBER OF COOLERS SUBMITTED

PER SHIPMENT:

CLIENT NAME

CLIENT E-MAIL

AIR

SOLID OR SEMIOLID

ADQUEOUS (WATER)

COMPOSITE (C) OR GRAB (G) INDICATE

NUMBER OF CONTAINERS SUBMITTED

REMARKS

CLIENT ADDRESS

COMPANY CONTRACTING THIS WORK (if applicable)

VACUUM

REINFORCED FOR LABORATORY BY:

(SIGNATURE)

DATE

TIME

RELINQUISHED BY: (SIGNATURE)

DATE

TIME

RECEIVED BY: (SIGNATURE)

DATE

TIME

LABORATORY USE ONLY

CUSTODY INTACT

YES

NO

CUSTODY SEAL NO.

SAVANNAH

LOG NO.

680-30212

 Alternate Laboratory Name/Location

 Phone:
 Fax:

Serial Number 55292

 Phone:
 Fax:

TestAmerica Savannah

 5102 LaRoche Avenue
 Savannah, GA 31404

Website: www.testamericainc.com

Phone: (912) 354-7858

Fax: (912) 352-0165

6/23/2012

6/23/2012

TAL ON 6/23/2012

Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 680-80212-1

Login Number: 80212

List Source: TestAmerica Savannah

List Number: 1

Creator: Conner, Keaton

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.0 C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 680-80212-1

Login Number: 80212

List Source: TestAmerica Burlington

List Number: 1

List Creation: 06/13/12 03:37 PM

Creator: Marion, Greg T

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	NO SEAL NUMBERS
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.2°C IR GUN ID 154/CF=-0.2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 680-80212-1

Login Number: 80212

List Source: TestAmerica Pensacola

List Number: 1

List Creation: 06/12/12 12:30 PM

Creator: Serratore, Maria

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Appendix I

Groundwater Analytical Report - Attenuation

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Savannah

5102 LaRoche Avenue
Savannah, GA 31404

Tel: (912)354-7858

TestAmerica Job ID: 680-79894-1

Client Project/Site: Granville Solvents Site

For:

AECOM, Inc.
4219 Malsbary Drive
Cincinnati, Ohio 45242

Attn: Mr. Ronald Roelker



Authorized for release by:

6/15/2012 5:09:55 PM

Lidya Gulizia
Project Manager II
lidya.gulizia@testamericainc.com

LINKS

Review your project
results through

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Expert

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www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Sample Summary	5
Method Summary	6
Definitions	7
Client Sample Results	8
QC Sample Results	12
QC Association	14
Chronicle	16
Chain of Custody	18
Receipt Checklists	19
Certification Summary	20

Case Narrative

Client: AECOM, Inc.
Project/Site: Granville Solvents Site

TestAmerica Job ID: 680-79894-1

Job ID: 680-79894-1

Laboratory: TestAmerica Savannah

Narrative

CASE NARRATIVE

Client: AECOM, Inc.

Project: Granville Solvents Site

Report Number: 680-79894-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 05/31/2012; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 3.4 C.

The client was contacted and advised of the presence of ice in some of the plastic wet chemistry containers. Per the client's instructions, the lab was authorized to proceed with all sample analyses.

DISSOLVED GASES

Samples MW02D-053012 (680-79894-1), MW04D-053012 (680-79894-2), GSSMW15-053012 (680-79894-3) and MWP1-053012 (680-79894-4) were analyzed for dissolved gases in accordance with RSK-175. The samples were analyzed on 06/06/2012.

No difficulties were encountered during the dissolved gases analyses.

All quality control parameters were within the acceptance limits.

DISSOLVED METALS (ICP)

Samples MW02D-053012 (680-79894-1), MW04D-053012 (680-79894-2), GSSMW15-053012 (680-79894-3) and MWP1-053012 (680-79894-4) were analyzed for dissolved metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared on 06/06/2012 and analyzed on 06/07/2012.

No difficulties were encountered during the metals analyses.

All quality control parameters were within the acceptance limits.

TOTAL METALS (ICP)

Samples MW02D-053012 (680-79894-1), MW04D-053012 (680-79894-2), GSSMW15-053012 (680-79894-3) and MWP1-053012 (680-79894-4) were analyzed for total metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared on 06/06/2012 and analyzed on 06/07/2012.

No difficulties were encountered during the metals analyses.

All quality control parameters were within the acceptance limits.

Case Narrative

Client: AECOM, Inc.

Project/Site: Granville Solvents Site

TestAmerica Job ID: 680-79894-1

Job ID: 680-79894-1 (Continued)

Laboratory: TestAmerica Savannah (Continued)

ANIONS BY IC

Samples MW02D-053012 (680-79894-1), MW04D-053012 (680-79894-2), GSSMW15-053012 (680-79894-3) and MWP1-053012 (680-79894-4) were analyzed for Anions by IC in accordance with EPA Method 300.0. The samples were analyzed on 06/08/2012.

Samples MW02D-053012 (680-79894-1)[5X], MW04D-053012 (680-79894-2)[5X], GSSMW15-053012 (680-79894-3)[5X] and MWP1-053012 (680-79894-4)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the Anions analyses.

All quality control parameters were within the acceptance limits.

ANIONS (NITRATE/NITRITE)

Samples MW02D-053012 (680-79894-1), MW04D-053012 (680-79894-2), GSSMW15-053012 (680-79894-3) and MWP1-053012 (680-79894-4) were analyzed for Anions (Nitrate/Nitrite) in accordance with EPA Method 300.0. The samples were analyzed on 05/31/2012 and 06/01/2012.

Samples MW02D-053012 (680-79894-1)[5X], MW04D-053012 (680-79894-2)[5X], GSSMW15-053012 (680-79894-3)[5X] and MWP1-053012 (680-79894-4)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the Anions analyses.

All quality control parameters were within the acceptance limits.

Sample Summary

Client: AECOM, Inc.

Project/Site: Granville Solvents Site

TestAmerica Job ID: 680-79894-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-79894-1	MW02D-053012	Water	05/30/12 15:18	05/31/12 08:43
680-79894-2	MW04D-053012	Water	05/30/12 11:55	05/31/12 08:43
680-79894-3	GSSMW15-053012	Water	05/30/12 16:45	05/31/12 08:43
680-79894-4	MWP1-053012	Water	05/30/12 13:40	05/31/12 08:43

Method Summary

Client: AECOM, Inc.

Project/Site: Granville Solvents Site

TestAmerica Job ID: 680-79894-1

Method	Method Description	Protocol	Laboratory
RSK-175	Dissolved Gases (GC)	RSK	TAL SAV
6010B	Metals (ICP)	SW846	TAL SAV
300.0	Anions, Ion Chromatography	MCAWW	TAL SAV

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Definitions/Glossary

Client: AECOM, Inc.

Project/Site: Granville Solvents Site

TestAmerica Job ID: 680-79894-1

Glossary

Abbreviation These commonly used abbreviations may or may not be present in this report.

✉	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents Site

TestAmerica Job ID: 680-79894-1

Client Sample ID: MW02D-053012

Lab Sample ID: 680-79894-1

Matrix: Water

Date Collected: 05/30/12 15:18

Date Received: 05/31/12 08:43

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	<1.1		1.1		ug/L			06/06/12 12:39	1
Ethylene	<1.0		1.0		ug/L			06/06/12 12:39	1
Methane	<0.58		0.58		ug/L			06/06/12 12:39	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1100		100		ug/L		06/06/12 10:59	06/07/12 02:14	1
Manganese	21		10		ug/L		06/06/12 10:59	06/07/12 02:14	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Iron	<50		50		ug/L		06/06/12 12:38	06/07/12 18:21	1
Dissolved Manganese	<10		10		ug/L		06/06/12 12:38	06/07/12 18:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	4.4		0.25		mg/L			05/31/12 23:45	5
Sulfate	67		5.0		mg/L			06/08/12 20:43	5

Client Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents Site

TestAmerica Job ID: 680-79894-1

Client Sample ID: MW04D-053012

Lab Sample ID: 680-79894-2

Matrix: Water

Date Collected: 05/30/12 11:55

Date Received: 05/31/12 08:43

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	<1.1		1.1		ug/L			06/06/12 12:52	1
Ethylene	<1.0		1.0		ug/L			06/06/12 12:52	1
Methane	<0.58		0.58		ug/L			06/06/12 12:52	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	410		100		ug/L		06/06/12 10:59	06/07/12 02:19	1
Manganese	18		10		ug/L		06/06/12 10:59	06/07/12 02:19	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Iron	<50		50		ug/L		06/06/12 12:38	06/07/12 18:25	1
Dissolved Manganese	<10		10		ug/L		06/06/12 12:38	06/07/12 18:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.73		0.25		mg/L			06/01/12 00:00	5
Sulfate	37		5.0		mg/L			06/08/12 20:55	5

Client Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents Site

TestAmerica Job ID: 680-79894-1

Client Sample ID: GSSMW15-053012

Lab Sample ID: 680-79894-3

Date Collected: 05/30/12 16:45

Matrix: Water

Date Received: 05/31/12 08:43

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	<1.1		1.1		ug/L			06/06/12 13:05	1
Ethylene	<1.0		1.0		ug/L			06/06/12 13:05	1
Methane	<0.58		0.58		ug/L			06/06/12 13:05	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	730		100		ug/L		06/06/12 10:59	06/07/12 02:24	1
Manganese	270		10		ug/L		06/06/12 10:59	06/07/12 02:24	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Iron	<50		50		ug/L		06/06/12 12:38	06/07/12 18:30	1
Dissolved Manganese	<10		10		ug/L		06/06/12 12:38	06/07/12 18:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.92		0.25		mg/L			06/01/12 00:16	5
Sulfate	79		5.0		mg/L			06/08/12 21:08	5

Client Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents Site

TestAmerica Job ID: 680-79894-1

Client Sample ID: MWP1-053012

Lab Sample ID: 680-79894-4

Matrix: Water

Date Collected: 05/30/12 13:40

Date Received: 05/31/12 08:43

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	<1.1		1.1		ug/L			06/06/12 13:18	1
Ethylene	<1.0		1.0		ug/L			06/06/12 13:18	1
Methane	<0.58		0.58		ug/L			06/06/12 13:18	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	370		100		ug/L		06/06/12 10:59	06/07/12 02:29	1
Manganese	18		10		ug/L		06/06/12 10:59	06/07/12 02:29	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Iron	<50		50		ug/L		06/06/12 12:38	06/07/12 18:35	1
Dissolved Manganese	<10		10		ug/L		06/06/12 12:38	06/07/12 18:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	3.7		0.25		mg/L			06/01/12 00:31	5
Sulfate	73		5.0		mg/L			06/08/12 21:20	5

QC Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents Site

TestAmerica Job ID: 680-79894-1

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 680-239444/4

Matrix: Water

Analysis Batch: 239444

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier									
Ethane	<1.1				1.1		ug/L			06/06/12 10:55	1
Ethylene	<1.0				1.0		ug/L			06/06/12 10:55	1
Methane	<0.58				0.58		ug/L			06/06/12 10:55	1

Lab Sample ID: LCS 680-239444/2

Matrix: Water

Analysis Batch: 239444

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spiked	LCS	LCS	Result	Qualifier	Unit	D	%Rec	Limits	%Rec.	RPD
	Added	Result	Qualifier								
Ethane	282	309				ug/L		110	75 - 125		
Ethylene	271	294				ug/L		109	75 - 125		
Methane	153	159				ug/L		104	75 - 125		

Lab Sample ID: LCSD 680-239444/3

Matrix: Water

Analysis Batch: 239444

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spiked	LCSD	LCSD	Result	Qualifier	Unit	D	%Rec	Limits	%Rec.	RPD	Limit
	Added	Result	Qualifier									
Ethane	282	352				ug/L		125	75 - 125		13	30
Ethylene	271	329				ug/L		122	75 - 125		11	30
Methane	153	182				ug/L		119	75 - 125		13	30

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 680-239453/1-A

Matrix: Water

Analysis Batch: 239639

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 239453

Analyte	MB	MB	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier									
Iron	<100				100		ug/L		06/06/12 10:59	06/07/12 01:06	1
Manganese	<10				10		ug/L		06/06/12 10:59	06/07/12 01:06	1

Lab Sample ID: LCS 680-239453/2-A

Matrix: Water

Analysis Batch: 239639

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 239453

Analyte	Spiked	LCS	LCS	Result	Qualifier	Unit	D	%Rec	Limits	%Rec.	RPD
	Added	Result	Qualifier								
Iron	1000	1030				ug/L		103	75 - 125		
Manganese	500	532				ug/L		106	75 - 125		

Lab Sample ID: MB 680-239474/1-B

Matrix: Water

Analysis Batch: 239755

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 239476

Analyte	MB	MB	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier									
Dissolved Iron	<50				50		ug/L		06/06/12 12:38	06/07/12 17:39	1
Dissolved Manganese	<10				10		ug/L		06/06/12 12:38	06/07/12 17:39	1

QC Sample Results

Client: AECOM, Inc.
Project/Site: Granville Solvents Site

TestAmerica Job ID: 680-79894-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 680-239474/2-B

Matrix: Water

Analysis Batch: 239755

Client Sample ID: Lab Control Sample

Prep Type: Dissolved

Prep Batch: 239476

Analyte	Spike	LCS	LCS	Unit	D	%Rec	Limits
	Added	Result	Qualifier				
Dissolved Iron	1000	991		ug/L	99	75 - 125	
Dissolved Manganese	500	517		ug/L	103	75 - 125	

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 680-239045/2

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 239045

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Nitrate as N	<0.25		0.25		mg/L			05/31/12 18:52	5

Lab Sample ID: LCS 680-239045/3

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 239045

Analyte	Spike	LCS	LCS	Unit	D	%Rec	Limits
	Added	Result	Qualifier				
Nitrate as N	4.99	4.65		mg/L	93	90 - 110	

Lab Sample ID: LCSD 680-239045/4

Client Sample ID: Lab Control Sample Dup

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 239045

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	Limits	RPD	Limit
	Added	Result	Qualifier						
Nitrate as N	4.99	4.66		mg/L	93	90 - 110		0	30

Lab Sample ID: MB 680-239998/2

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 239998

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Sulfate	<5.0		5.0		mg/L			06/08/12 16:22	5

Lab Sample ID: LCS 680-239998/3

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 239998

Analyte	Spike	LCS	LCS	Unit	D	%Rec	Limits
	Added	Result	Qualifier				
Sulfate	50.0	49.0		mg/L	98	90 - 110	

Lab Sample ID: LCSD 680-239998/4

Client Sample ID: Lab Control Sample Dup

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 239998

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	Limits	RPD	Limit
	Added	Result	Qualifier						
Sulfate	50.0	48.9		mg/L	98	90 - 110		0	30

QC Association Summary

Client: AECOM, Inc.
Project/Site: Granville Solvents Site

TestAmerica Job ID: 680-79894-1

GC VOA

Analysis Batch: 239444

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-79894-1	MW02D-053012	Total/NA	Water	RSK-175	
680-79894-2	MW04D-053012	Total/NA	Water	RSK-175	
680-79894-3	GSSMW15-053012	Total/NA	Water	RSK-175	
680-79894-4	MWP1-053012	Total/NA	Water	RSK-175	
LCS 680-239444/2	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 680-239444/3	Lab Control Sample Dup	Total/NA	Water	RSK-175	
MB 680-239444/4	Method Blank	Total/NA	Water	RSK-175	

Metals

Prep Batch: 239453

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-79894-1	MW02D-053012	Total/NA	Water	3010A	
680-79894-2	MW04D-053012	Total/NA	Water	3010A	
680-79894-3	GSSMW15-053012	Total/NA	Water	3010A	
680-79894-4	MWP1-053012	Total/NA	Water	3010A	
LCS 680-239453/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 680-239453/1-A	Method Blank	Total/NA	Water	3010A	

Prep Batch: 239476

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-79894-1	MW02D-053012	Dissolved	Water	3005A	
680-79894-2	MW04D-053012	Dissolved	Water	3005A	
680-79894-3	GSSMW15-053012	Dissolved	Water	3005A	
680-79894-4	MWP1-053012	Dissolved	Water	3005A	
LCS 680-239474/2-B	Lab Control Sample	Dissolved	Water	3005A	
MB 680-239474/1-B	Method Blank	Dissolved	Water	3005A	

Analysis Batch: 239639

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-79894-1	MW02D-053012	Total/NA	Water	6010B	239453
680-79894-2	MW04D-053012	Total/NA	Water	6010B	239453
680-79894-3	GSSMW15-053012	Total/NA	Water	6010B	239453
680-79894-4	MWP1-053012	Total/NA	Water	6010B	239453
LCS 680-239453/2-A	Lab Control Sample	Total/NA	Water	6010B	239453
MB 680-239453/1-A	Method Blank	Total/NA	Water	6010B	239453

Analysis Batch: 239755

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-79894-1	MW02D-053012	Dissolved	Water	6010B	239476
680-79894-2	MW04D-053012	Dissolved	Water	6010B	239476
680-79894-3	GSSMW15-053012	Dissolved	Water	6010B	239476
680-79894-4	MWP1-053012	Dissolved	Water	6010B	239476
LCS 680-239474/2-B	Lab Control Sample	Dissolved	Water	6010B	239476
MB 680-239474/1-B	Method Blank	Dissolved	Water	6010B	239476

General Chemistry

Analysis Batch: 239045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-79894-1	MW02D-053012	Total/NA	Water	300.0	
680-79894-2	MW04D-053012	Total/NA	Water	300.0	

QC Association Summary

Client: AECOM, Inc.

Project/Site: Granville Solvents Site

TestAmerica Job ID: 680-79894-1

General Chemistry (Continued)

Analysis Batch: 239045 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-79894-3	GSSMW15-053012	Total/NA	Water	300.0	
680-79894-4	MWP1-053012	Total/NA	Water	300.0	
LCS 680-239045/3	Lab Control Sample	Total/NA	Water	300.0	
LCSD 680-239045/4	Lab Control Sample Dup	Total/NA	Water	300.0	
MB 680-239045/2	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 239998

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-79894-1	MW02D-053012	Total/NA	Water	300.0	
680-79894-2	MW04D-053012	Total/NA	Water	300.0	
680-79894-3	GSSMW15-053012	Total/NA	Water	300.0	
680-79894-4	MWP1-053012	Total/NA	Water	300.0	
LCS 680-239998/3	Lab Control Sample	Total/NA	Water	300.0	
LCSD 680-239998/4	Lab Control Sample Dup	Total/NA	Water	300.0	
MB 680-239998/2	Method Blank	Total/NA	Water	300.0	

Lab Chronicle

Client: AECOM, Inc.
Project/Site: Granville Solvents Site

TestAmerica Job ID: 680-79894-1

Client Sample ID: MW02D-053012

Lab Sample ID: 680-79894-1

Matrix: Water

Date Collected: 05/30/12 15:18

Date Received: 05/31/12 08:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	RSK-175		1	239444	06/06/12 12:39	AJMC	TAL SAV
Total/NA	Prep	3010A			239453	06/06/12 10:59	CDJ	TAL SAV
Total/NA	Analysis	6010B		1	239639	06/07/12 02:14	BCB	TAL SAV
Dissolved	Prep	3005A			239476	06/06/12 12:38	CDJ	TAL SAV
Dissolved	Analysis	6010B		1	239755	06/07/12 18:21	BCB	TAL SAV
Total/NA	Analysis	300.0		5	239045	05/31/12 23:45	PAT	TAL SAV
Total/NA	Analysis	300.0		5	239998	06/08/12 20:43	PAT	TAL SAV

Client Sample ID: MW04D-053012

Lab Sample ID: 680-79894-2

Matrix: Water

Date Collected: 05/30/12 11:55

Date Received: 05/31/12 08:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	RSK-175		1	239444	06/06/12 12:52	AJMC	TAL SAV
Total/NA	Prep	3010A			239453	06/06/12 10:59	CDJ	TAL SAV
Total/NA	Analysis	6010B		1	239639	06/07/12 02:19	BCB	TAL SAV
Dissolved	Prep	3005A			239476	06/06/12 12:38	CDJ	TAL SAV
Dissolved	Analysis	6010B		1	239755	06/07/12 18:25	BCB	TAL SAV
Total/NA	Analysis	300.0		5	239045	06/01/12 00:00	PAT	TAL SAV
Total/NA	Analysis	300.0		5	239998	06/08/12 20:55	PAT	TAL SAV

Client Sample ID: GSSMW15-053012

Lab Sample ID: 680-79894-3

Matrix: Water

Date Collected: 05/30/12 16:45

Date Received: 05/31/12 08:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	RSK-175		1	239444	06/06/12 13:05	AJMC	TAL SAV
Total/NA	Prep	3010A			239453	06/06/12 10:59	CDJ	TAL SAV
Total/NA	Analysis	6010B		1	239639	06/07/12 02:24	BCB	TAL SAV
Dissolved	Prep	3005A			239476	06/06/12 12:38	CDJ	TAL SAV
Dissolved	Analysis	6010B		1	239755	06/07/12 18:30	BCB	TAL SAV
Total/NA	Analysis	300.0		5	239045	06/01/12 00:16	PAT	TAL SAV
Total/NA	Analysis	300.0		5	239998	06/08/12 21:08	PAT	TAL SAV

Client Sample ID: MWP1-053012

Lab Sample ID: 680-79894-4

Matrix: Water

Date Collected: 05/30/12 13:40

Date Received: 05/31/12 08:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	RSK-175		1	239444	06/06/12 13:18	AJMC	TAL SAV
Total/NA	Prep	3010A			239453	06/06/12 10:59	CDJ	TAL SAV
Total/NA	Analysis	6010B		1	239639	06/07/12 02:29	BCB	TAL SAV
Dissolved	Prep	3005A			239476	06/06/12 12:38	CDJ	TAL SAV

Lab Chronicle

Client: AECOM, Inc.

Project/Site: Granville Solvents Site

TestAmerica Job ID: 680-79894-1

Client Sample ID: MWP1-053012

Lab Sample ID: 680-79894-4

Date Collected: 05/30/12 13:40

Matrix: Water

Date Received: 05/31/12 08:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	6010B		1	239755	06/07/12 18:35	BCB	TAL SAV
Total/NA	Analysis	300.0		5	239045	06/01/12 00:31	PAT	TAL SAV
Total/NA	Analysis	300.0		5	239998	06/08/12 21:20	PAT	TAL SAV

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

TestAmerica

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TestAmerica

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.restaurantcainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 680-79894-1

Login Number: 79894

List Source: TestAmerica Savannah

List Number: 1

Creator: Howard, Brandon L

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	some ice in plastic sample containers, per R.Roelker lab to proceed with analyse
Cooler Temperature is recorded.	True	3.4 C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	nitric samples all out of ph
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: AECOM, Inc.

Project/Site: Granville Solvents Site

TestAmerica Job ID: 680-79894-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Savannah	A2LA	DoD ELAP		0399-01
TestAmerica Savannah	A2LA	ISO/IEC 17025		399.01
TestAmerica Savannah	Alabama	State Program	4	41450
TestAmerica Savannah	Arkansas DEQ	State Program	6	88-0692
TestAmerica Savannah	California	NELAC	9	3217CA
TestAmerica Savannah	Colorado	State Program	8	N/A
TestAmerica Savannah	Connecticut	State Program	1	PH-0161
TestAmerica Savannah	Florida	NELAC	4	E87052
TestAmerica Savannah	GA Dept. of Agriculture	State Program	4	N/A
TestAmerica Savannah	Georgia	State Program	4	803
TestAmerica Savannah	Georgia	State Program	4	N/A
TestAmerica Savannah	Guam	State Program	9	09-005r
TestAmerica Savannah	Hawaii	State Program	9	N/A
TestAmerica Savannah	Illinois	NELAC	5	200022
TestAmerica Savannah	Indiana	State Program	5	N/A
TestAmerica Savannah	Iowa	State Program	7	353
TestAmerica Savannah	Kentucky	State Program	4	90084
TestAmerica Savannah	Kentucky (UST)	State Program	4	18
TestAmerica Savannah	Louisiana	NELAC	6	30690
TestAmerica Savannah	Louisiana	NELAC	6	LA100015
TestAmerica Savannah	Maine	State Program	1	GA00006
TestAmerica Savannah	Maryland	State Program	3	250
TestAmerica Savannah	Massachusetts	State Program	1	M-GA006
TestAmerica Savannah	Michigan	State Program	5	9925
TestAmerica Savannah	Mississippi	State Program	4	N/A
TestAmerica Savannah	Montana	State Program	8	CERT0081
TestAmerica Savannah	Nebraska	State Program	7	TestAmerica-Savannah
TestAmerica Savannah	New Jersey	NELAC	2	GA769
TestAmerica Savannah	New Mexico	State Program	6	N/A
TestAmerica Savannah	New York	NELAC	2	10842
TestAmerica Savannah	North Carolina DENR	State Program	4	269
TestAmerica Savannah	North Carolina DHHS	State Program	4	13701
TestAmerica Savannah	Oklahoma	State Program	6	9984
TestAmerica Savannah	Pennsylvania	NELAC	3	68-00474
TestAmerica Savannah	Puerto Rico	State Program	2	GA00006
TestAmerica Savannah	Rhode Island	State Program	1	LAO00244
TestAmerica Savannah	South Carolina	State Program	4	98001
TestAmerica Savannah	Tennessee	State Program	4	TN02961
TestAmerica Savannah	Texas	NELAC	6	T104704185-08-TX
TestAmerica Savannah	USDA	Federal		SAV 3-04
TestAmerica Savannah	Vermont	State Program	1	87052
TestAmerica Savannah	Virginia	NELAC	3	460161
TestAmerica Savannah	Washington	State Program	10	C1794
TestAmerica Savannah	West Virginia	State Program	3	9950C
TestAmerica Savannah	West Virginia DEP	State Program	3	94
TestAmerica Savannah	Wisconsin	State Program	5	999819810
TestAmerica Savannah	Wyoming	State Program	8	8TMS-Q

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Savannah

5102 LaRoche Avenue

Savannah, GA 31404

Tel: (912)354-7858

TestAmerica Job ID: 680-79943-1

Client Project/Site: Granville Solvents

For:

AECOM, Inc.

4219 Malsbary Drive

Cincinnati, Ohio 45242

Attn: Michael Papp



Authorized for release by:

6/15/2012 4:52:17 PM

Lidya Gulizia

Project Manager II

lidya.gulizia@testamericainc.com

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Sample Summary	5
Method Summary	6
Definitions	7
Client Sample Results	8
QC Sample Results	10
QC Association	13
Chronicle	15
Chain of Custody	16
Receipt Checklists	17
Certification Summary	18

Case Narrative

Client: AECOM, Inc.
Project/Site: Granville Solvents

TestAmerica Job ID: 680-79943-1

Job ID: 680-79943-1

Laboratory: TestAmerica Savannah

Narrative

CASE NARRATIVE

Client: AECOM, Inc.

Project: Granville Solvents

Report Number: 680-79943-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 06/01/2012; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.6 C.

DISSOLVED GASES

Samples MW05-053112 (680-79943-1) and MW08-053112 (680-79943-2) were analyzed for dissolved gases in accordance with RSK-175. The samples were analyzed on 06/06/2012.

No difficulties were encountered during the dissolved gases analyses.

All quality control parameters were within the acceptance limits.

DISSOLVED METALS (ICP)

Samples MW05-053112 (680-79943-1) and MW08-053112 (680-79943-2) were analyzed for dissolved metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared on 06/06/2012 and analyzed on 06/07/2012.

No difficulties were encountered during the metals analyses.

All quality control parameters were within the acceptance limits.

TOTAL METALS (ICP)

Samples MW05-053112 (680-79943-1) and MW08-053112 (680-79943-2) were analyzed for total metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared and analyzed on 06/06/2012.

No difficulties were encountered during the metals analyses.

All quality control parameters were within the acceptance limits.

ANIONS BY IC

Samples MW05-053112 (680-79943-1) and MW08-053112 (680-79943-2) were analyzed for Anions by IC in accordance with EPA Method 300.0. The samples were analyzed on 06/13/2012.

Case Narrative

Client: AECOM, Inc.
Project/Site: Granville Solvents

TestAmerica Job ID: 680-79943-1

Job ID: 680-79943-1 (Continued)

Laboratory: TestAmerica Savannah (Continued)

Samples MW05-053112 (680-79943-1)[5X] and MW08-053112 (680-79943-2)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the Anions analyses.

All quality control parameters were within the acceptance limits.

ANIONS (NITRATE/NITRITE)

Samples MW05-053112 (680-79943-1) and MW08-053112 (680-79943-2) were analyzed for Anions (Nitrate/Nitrite) in accordance with EPA Method 300.0. The samples were analyzed on 06/01/2012.

Samples MW05-053112 (680-79943-1)[5X] and MW08-053112 (680-79943-2)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the Anions analyses.

All quality control parameters were within the acceptance limits.

Sample Summary

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79943-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-79943-1	MW05-053112	Water	05/31/12 14:33	06/01/12 08:25
680-79943-2	MW08-053112	Water	05/31/12 10:55	06/01/12 08:25

Method Summary

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79943-1

Method	Method Description	Protocol	Laboratory
RSK-175	Dissolved Gases (GC)	RSK	TAL SAV
6010B	Metals (ICP)	SW846	TAL SAV
300.0	Anions, Ion Chromatography	MCAWW	TAL SAV

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Definitions/Glossary

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79943-1

Glossary

Abbreviation These commonly used abbreviations may or may not be present in this report.

✉	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79943-1

Client Sample ID: MW05-053112

Lab Sample ID: 680-79943-1

Date Collected: 05/31/12 14:33

Matrix: Water

Date Received: 06/01/12 08:25

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	<1.1		1.1		ug/L			06/06/12 15:13	1
Ethylene	<1.0		1.0		ug/L			06/06/12 15:13	1
Methane	<0.58		0.58		ug/L			06/06/12 15:13	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	200		100		ug/L		06/06/12 11:34	06/06/12 22:46	1
Manganese	<10		10		ug/L		06/06/12 11:34	06/06/12 22:46	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Iron	<50		50		ug/L		06/06/12 12:38	06/07/12 19:08	1
Dissolved Manganese	<10		10		ug/L		06/06/12 12:38	06/07/12 19:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	3.1		0.25		mg/L			06/01/12 16:38	5
Sulfate	53		5.0		mg/L			06/13/12 01:39	5

Client Sample Results

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79943-1

Client Sample ID: MW08-053112

Lab Sample ID: 680-79943-2

Matrix: Water

Date Collected: 05/31/12 10:55

Date Received: 06/01/12 08:25

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	<1.1		1.1		ug/L			06/06/12 15:26	1
Ethylene	<1.0		1.0		ug/L			06/06/12 15:26	1
Methane	3.1		0.58		ug/L			06/06/12 15:26	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<100		100		ug/L		06/06/12 11:34	06/06/12 22:51	1
Manganese	19		10		ug/L		06/06/12 11:34	06/06/12 22:51	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Iron	<50		50		ug/L		06/06/12 12:38	06/07/12 19:12	1
Dissolved Manganese	<10		10		ug/L		06/06/12 12:38	06/07/12 19:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	4.5		0.25		mg/L			06/01/12 17:25	5
Sulfate	24		5.0		mg/L			06/13/12 02:41	5

QC Sample Results

Client: AECOM, Inc.
Project/Site: Granville Solvents

TestAmerica Job ID: 680-79943-1

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 680-239444/4

Matrix: Water

Analysis Batch: 239444

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Ethane	<1.1		1.1		ug/L			06/06/12 10:55	1
Ethylene	<1.0		1.0		ug/L			06/06/12 10:55	1
Methane	<0.58		0.58		ug/L			06/06/12 10:55	1

Lab Sample ID: LCS 680-239444/2

Matrix: Water

Analysis Batch: 239444

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Unit	D	%Rec	Limits	%Rec.	RPD
	Added	Result	Qualifier						
Ethane	282	309		ug/L		110	75 - 125		
Ethylene	271	294		ug/L		109	75 - 125		
Methane	153	159		ug/L		104	75 - 125		

Lab Sample ID: LCSD 680-239444/3

Matrix: Water

Analysis Batch: 239444

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	Limits	%Rec.	RPD	Limit
	Added	Result	Qualifier							
Ethane	282	352		ug/L		125	75 - 125		13	30
Ethylene	271	329		ug/L		122	75 - 125		11	30
Methane	153	182		ug/L		119	75 - 125		13	30

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 680-239463/1-A

Matrix: Water

Analysis Batch: 239639

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 239463

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Iron	<100		100		ug/L		06/06/12 11:34	06/06/12 22:25	1
Manganese	<10		10		ug/L		06/06/12 11:34	06/06/12 22:25	1

Lab Sample ID: LCS 680-239463/2-A

Matrix: Water

Analysis Batch: 239639

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 239463

Analyte	Spike	LCS	LCS	Unit	D	%Rec	Limits	%Rec.	RPD
	Added	Result	Qualifier						
Iron	1000	1050		ug/L		105	75 - 125		
Manganese	500	541		ug/L		108	75 - 125		

Lab Sample ID: LCSD 680-239463/23-A

Matrix: Water

Analysis Batch: 239639

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 239463

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	Limits	%Rec.	RPD
	Added	Result	Qualifier						
Iron	1000	1020		ug/L		102	75 - 125		2
Manganese	500	528		ug/L		106	75 - 125		2

QC Sample Results

Client: AECOM, Inc.
Project/Site: Granville Solvents

TestAmerica Job ID: 680-79943-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: MB 680-239474/1-B

Matrix: Water

Analysis Batch: 239755

Client Sample ID: Method Blank

Prep Type: Dissolved

Prep Batch: 239476

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Dissolved Iron	<50		50	ug/L			06/06/12 12:38	06/07/12 17:39	1
Dissolved Manganese	<10		10	ug/L			06/06/12 12:38	06/07/12 17:39	1

Lab Sample ID: LCS 680-239474/2-B

Matrix: Water

Analysis Batch: 239755

Client Sample ID: Lab Control Sample

Prep Type: Dissolved

Prep Batch: 239476

Analyte	Spike	LCS	LCS	Unit	D	%Rec.	Limits	Dil Fac
	Added	Result	Qualifier					
Dissolved Iron	1000	991		ug/L		99	75 - 125	
Dissolved Manganese	500	517		ug/L		103	75 - 125	

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 680-239101/9

Matrix: Water

Analysis Batch: 239101

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Nitrate as N	<0.25		0.25	mg/L			06/01/12 11:43		5

Lab Sample ID: LCS 680-239101/10

Matrix: Water

Analysis Batch: 239101

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Unit	D	%Rec.	Limits	Dil Fac
	Added	Result	Qualifier					
Nitrate as N	4.99	4.70		mg/L		94	90 - 110	

Lab Sample ID: LCSD 680-239101/11

Matrix: Water

Analysis Batch: 239101

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec.	Limits	RPD	Limit
	Added	Result	Qualifier						
Nitrate as N	4.99	4.70		mg/L		94	90 - 110	0	30

Lab Sample ID: 680-79943-1 MS

Matrix: Water

Analysis Batch: 239101

Client Sample ID: MW05-053112

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier				
Nitrate as N	3.1		4.99	8.17		mg/L		102	90 - 110

Lab Sample ID: 680-79943-1 MSD

Matrix: Water

Analysis Batch: 239101

Client Sample ID: MW05-053112

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier				
Nitrate as N	3.1		4.99	8.19		mg/L		102	90 - 110

QC Sample Results

Client: AECOM, Inc.
Project/Site: Granville Solvents

TestAmerica Job ID: 680-79943-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 680-240238/2

Matrix: Water

Analysis Batch: 240238

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Sulfate	<5.0		5.0		mg/L			06/12/12 20:42	5

Lab Sample ID: LCS 680-240238/3

Matrix: Water

Analysis Batch: 240238

Analyte	Spike	LCS	LCS	Unit	D	%Rec.	Limits	RPD	Limit
	Added	Result	Qualifier						
Sulfate	50.0	48.6		mg/L		97	90 - 110	0	30

Lab Sample ID: LCSD 680-240238/4

Matrix: Water

Analysis Batch: 240238

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec.	Limits	RPD	Limit
	Added	Result	Qualifier						
Sulfate	50.0	48.8		mg/L		98	90 - 110	0	30

Lab Sample ID: LCS 680-240239/3

Matrix: Water

Analysis Batch: 240239

Analyte	Spike	LCS	LCS	Unit	D	%Rec.	Limits	RPD	Limit
	Added	Result	Qualifier						
Sulfate	50.0	48.6		mg/L		97	90 - 110	0	30

Lab Sample ID: LCSD 680-240239/4

Matrix: Water

Analysis Batch: 240239

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec.	Limits	RPD	Limit
	Added	Result	Qualifier						
Sulfate	50.0	48.8		mg/L		98	90 - 110	0	30

Lab Sample ID: 680-79943-2 MS

Matrix: Water

Analysis Batch: 240239

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier				
Sulfate	24		50.0	73.9		mg/L		101	90 - 110

Lab Sample ID: 680-79943-2 MSD

Matrix: Water

Analysis Batch: 240239

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier				
Sulfate	24		50.0	73.9		mg/L		101	90 - 110

QC Association Summary

Client: AECOM, Inc.
Project/Site: Granville Solvents

TestAmerica Job ID: 680-79943-1

GC VOA

Analysis Batch: 239444

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-79943-1	MW05-053112	Total/NA	Water	RSK-175	
680-79943-2	MW08-053112	Total/NA	Water	RSK-175	
LCS 680-239444/2	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 680-239444/3	Lab Control Sample Dup	Total/NA	Water	RSK-175	
MB 680-239444/4	Method Blank	Total/NA	Water	RSK-175	

Metals

Prep Batch: 239463

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-79943-1	MW05-053112	Total/NA	Water	3010A	
680-79943-2	MW08-053112	Total/NA	Water	3010A	
LCS 680-239463/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 680-239463/23-A	Lab Control Sample Dup	Total/NA	Water	3010A	
MB 680-239463/1-A	Method Blank	Total/NA	Water	3010A	

Prep Batch: 239476

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-79943-1	MW05-053112	Dissolved	Water	3005A	
680-79943-2	MW08-053112	Dissolved	Water	3005A	
LCS 680-239474/2-B	Lab Control Sample	Dissolved	Water	3005A	
MB 680-239474/1-B	Method Blank	Dissolved	Water	3005A	

Analysis Batch: 239639

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-79943-1	MW05-053112	Total/NA	Water	6010B	
680-79943-2	MW08-053112	Total/NA	Water	6010B	
LCS 680-239463/2-A	Lab Control Sample	Total/NA	Water	6010B	
LCSD 680-239463/23-A	Lab Control Sample Dup	Total/NA	Water	6010B	
MB 680-239463/1-A	Method Blank	Total/NA	Water	6010B	

Analysis Batch: 239755

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-79943-1	MW05-053112	Dissolved	Water	6010B	
680-79943-2	MW08-053112	Dissolved	Water	6010B	
LCS 680-239474/2-B	Lab Control Sample	Dissolved	Water	6010B	
MB 680-239474/1-B	Method Blank	Dissolved	Water	6010B	

General Chemistry

Analysis Batch: 239101

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-79943-1	MW05-053112	Total/NA	Water	300.0	
680-79943-1 MS	MW05-053112	Total/NA	Water	300.0	
680-79943-1 MSD	MW05-053112	Total/NA	Water	300.0	
680-79943-2	MW08-053112	Total/NA	Water	300.0	
LCS 680-239101/10	Lab Control Sample	Total/NA	Water	300.0	
LCSD 680-239101/11	Lab Control Sample Dup	Total/NA	Water	300.0	
MB 680-239101/9	Method Blank	Total/NA	Water	300.0	

QC Association Summary

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79943-1

General Chemistry (Continued)

Analysis Batch: 240238

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-79943-1	MW05-053112	Total/NA	Water	300.0	
LCS 680-240238/3	Lab Control Sample	Total/NA	Water	300.0	
LCSD 680-240238/4	Lab Control Sample Dup	Total/NA	Water	300.0	
MB 680-240238/2	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 240239

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-79943-2	MW08-053112	Total/NA	Water	300.0	
680-79943-2 MS	MW08-053112	Total/NA	Water	300.0	
680-79943-2 MSD	MW08-053112	Total/NA	Water	300.0	
LCS 680-240239/3	Lab Control Sample	Total/NA	Water	300.0	
LCSD 680-240239/4	Lab Control Sample Dup	Total/NA	Water	300.0	

Lab Chronicle

Client: AECOM, Inc.
Project/Site: Granville Solvents

TestAmerica Job ID: 680-79943-1

Client Sample ID: MW05-053112

Lab Sample ID: 680-79943-1

Matrix: Water

Date Collected: 05/31/12 14:33

Date Received: 06/01/12 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	RSK-175		1	239444	06/06/12 15:13	AJMC	TAL SAV
Total/NA	Prep	3010A			239463	06/06/12 11:34	CDJ	TAL SAV
Total/NA	Analysis	6010B		1	239639	06/06/12 22:46	BCB	TAL SAV
Dissolved	Prep	3005A			239476	06/06/12 12:38	CDJ	TAL SAV
Dissolved	Analysis	6010B		1	239755	06/07/12 19:08	BCB	TAL SAV
Total/NA	Analysis	300.0		5	239101	06/01/12 16:38	SMP	TAL SAV
Total/NA	Analysis	300.0		5	240238	06/13/12 01:39	PAT	TAL SAV

Client Sample ID: MW08-053112

Lab Sample ID: 680-79943-2

Matrix: Water

Date Collected: 05/31/12 10:55

Date Received: 06/01/12 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	RSK-175		1	239444	06/06/12 15:26	AJMC	TAL SAV
Total/NA	Prep	3010A			239463	06/06/12 11:34	CDJ	TAL SAV
Total/NA	Analysis	6010B		1	239639	06/06/12 22:51	BCB	TAL SAV
Dissolved	Prep	3005A			239476	06/06/12 12:38	CDJ	TAL SAV
Dissolved	Analysis	6010B		1	239755	06/07/12 19:12	BCB	TAL SAV
Total/NA	Analysis	300.0		5	239101	06/01/12 17:25	SMP	TAL SAV
Total/NA	Analysis	300.0		5	240239	06/13/12 02:41	PAT	TAL SAV

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

TestAmerica

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)	MATRIX TYPE	REQUIRED ANALYSIS		PAGE #	OF /
				STANDARD REPORT DELIVERY	EXPEDITED REPORT DELIVERY (SURCHARGE)		
Granville clients Site	P.O. NUMBER 513-520-0841	CONTRACT NO. 513-878-0841	AIR				
Lidge City 219	CLIENT PHONE	CLIENT FAX	SOLID OR SEMISOLID				
Ken Roelker	CLIENT E-MAIL Ken.Roelker@secon.com		NONAQUEOUS LIQUID (OIL, SOLVENT, ETC.)				
Accts			AGQUEOUS MATTER				
419 Holshaus Rd Cincinnati, OH 45242	CLIENT ADDRESS	COMPONENT (G OR GRAB (G) INDICATE THIS WORK (if applicable)	COMPOSITE (G OR GRAB (G))				
	COMPANY CONTRACTING THIS WORK (if applicable)		SOLID OR SEMISOLID				
			NONAQUEOUS LIQUID (OIL, SOLVENT, ETC.)				
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			SOLID OR SEMISOLID				
			NONAQUEOUS LIQUID (OIL, SOLVENT, ETC.)				
			AGQUEOUS MATTER				
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			SOLID OR SEMISOLID				
			NONAQUEOUS LIQUID (OIL, SOLVENT, ETC.)				
			AGQUEOUS MATTER				

Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 680-79943-1

Login Number: 79943

List Source: TestAmerica Savannah

List Number: 1

Creator: Howard, Brandon L

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.6 C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	samples for B-1 and B-2 are Greater than 2
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	Insufficient volume received for MS/MSD.
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: AECOM, Inc.

Project/Site: Granville Solvents

TestAmerica Job ID: 680-79943-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Savannah	A2LA	DoD ELAP		0399-01
TestAmerica Savannah	A2LA	ISO/IEC 17025		399.01
TestAmerica Savannah	Alabama	State Program	4	41450
TestAmerica Savannah	Arkansas DEQ	State Program	6	88-0692
TestAmerica Savannah	California	NELAC	9	3217CA
TestAmerica Savannah	Colorado	State Program	8	N/A
TestAmerica Savannah	Connecticut	State Program	1	PH-0161
TestAmerica Savannah	Florida	NELAC	4	E87052
TestAmerica Savannah	GA Dept. of Agriculture	State Program	4	N/A
TestAmerica Savannah	Georgia	State Program	4	803
TestAmerica Savannah	Georgia	State Program	4	N/A
TestAmerica Savannah	Guam	State Program	9	09-005r
TestAmerica Savannah	Hawaii	State Program	9	N/A
TestAmerica Savannah	Illinois	NELAC	5	200022
TestAmerica Savannah	Indiana	State Program	5	N/A
TestAmerica Savannah	Iowa	State Program	7	353
TestAmerica Savannah	Kentucky	State Program	4	90084
TestAmerica Savannah	Kentucky (UST)	State Program	4	18
TestAmerica Savannah	Louisiana	NELAC	6	30690
TestAmerica Savannah	Louisiana	NELAC	6	LA100015
TestAmerica Savannah	Maine	State Program	1	GA00006
TestAmerica Savannah	Maryland	State Program	3	250
TestAmerica Savannah	Massachusetts	State Program	1	M-GA006
TestAmerica Savannah	Michigan	State Program	5	9925
TestAmerica Savannah	Mississippi	State Program	4	N/A
TestAmerica Savannah	Montana	State Program	8	CERT0081
TestAmerica Savannah	Nebraska	State Program	7	TestAmerica-Savannah
TestAmerica Savannah	New Jersey	NELAC	2	GA769
TestAmerica Savannah	New Mexico	State Program	6	N/A
TestAmerica Savannah	New York	NELAC	2	10842
TestAmerica Savannah	North Carolina DENR	State Program	4	269
TestAmerica Savannah	North Carolina DHHS	State Program	4	13701
TestAmerica Savannah	Oklahoma	State Program	6	9984
TestAmerica Savannah	Pennsylvania	NELAC	3	68-00474
TestAmerica Savannah	Puerto Rico	State Program	2	GA00006
TestAmerica Savannah	Rhode Island	State Program	1	LAO00244
TestAmerica Savannah	South Carolina	State Program	4	98001
TestAmerica Savannah	Tennessee	State Program	4	TN02961
TestAmerica Savannah	Texas	NELAC	6	T104704185-08-TX
TestAmerica Savannah	USDA	Federal		SAV 3-04
TestAmerica Savannah	Vermont	State Program	1	87052
TestAmerica Savannah	Virginia	NELAC	3	460161
TestAmerica Savannah	Washington	State Program	10	C1794
TestAmerica Savannah	West Virginia	State Program	3	9950C
TestAmerica Savannah	West Virginia DEP	State Program	3	94
TestAmerica Savannah	Wisconsin	State Program	5	999819810
TestAmerica Savannah	Wyoming	State Program	8	8TMS-Q

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.